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A Critical Examination of Actuarial Offender-Based Prediction Assessments: Guidance for the Next Generation of Assessments

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A Critical Examination of Actuarial Offender-Based Prediction Assessments: Guidance for the Next Generation of Assessments

by

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Dedication

This is dedicated to three very special individuals without whom this document would not exist.

Dimitria D. Pope and Marty M. Martin

Without your daily support and encouragement over the past ten years, this would never have happened.

Matthew Moczygemba Connolly

Without your love, understanding and advice, this would never have been finished.

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A Critical Examination of Actuarial Offender-Based Prediction Assessments: Guidance for the Next Generation of Assessments

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This study critically examines the prediction and classification aspect of the community supervision process. Probation departments across the United States, Canada and Europe use assessment instruments to attempt to predict who is likely to continue to engage in criminal behavior so that they can be classified and supervised accordingly. This study focuses on four fundamental questions: What is prediction and classification of offenders? Why are prediction and classification important? What do we know about the reliability and validity of prediction and classification applications? How can prediction and classification be improved?

The methods of the study consists of constructing risk prediction models to compete against one of the most commonly used risk assessments in the field of community supervision: the Wisconsin risk and need assessment. Over thirty logistical regression models are constructed in an attempt to improve upon existing technology. Models are constructed for the outcomes rearrest, probation revocation and probation success.

The findings of this study in no way diminish the need for accurate prediction and appropriate assessment. They do show that the predictive power of the most commonly used assessment instruments and instruments based on current data and methods is negligible and therefore should not be relied on as a sole factor in classification.

Concluded is that significant improvement in offender risk prediction instruments will likely only be made if the specifications of the instruments become more closely linked with criminological theory. Utilizing a battery of assessments grounded in theory that take into account the offender's characteristics and the community in which they reside, may be the only way we make progress in predicting their likelihood of future offending.

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Chapter 1: Introduction

This study critically examines the prediction and classification aspect of the community supervision process. Probation departments across the United States, Canada and Europe use assessment instruments to attempt to predict who is likely to continue to engage in criminal behavior so that they can be classified and supervised accordingly. The findings of this study in no way diminish the need for accurate prediction and appropriate assessment. However, they do show that the predictive power of the most commonly used assessment instruments and instruments based on current data and methods is negligible and therefore should not be relied on as a sole factor in classification.

This study reviews the importance of appropriate prediction and classification processes and methods, the state of prediction and classification technology, and test methods for improving this technology. Chapter Two presents a theoretical overview of prediction and classification research. The importance of prediction and classification is addressed, and the current state of classification and prediction technology is examined. Chapter Two also provides a history of offender risk prediction and classification. Chapter Three details the research design and methodology used in this study to test and improve upon existing technology. Chapter Four describes in detail the study sample and the integrity of the study sample data set. Chapter Five further refines the variables this study uses in the construction of prediction models. Chapter Six presents the results of all the constructed risk prediction models. Chapter Seven reports conclusions.

Research Context

Determining what to do with an offender who commits a crime is not a simple process. One major decision is whether to send the offender to prison or to place him/her on some form of community supervision. Community supervision, which is often referred to as probation, is a correctional strategy that allows an offender to be supervised outside the confines of an institutional setting while serving a probated sentence.

The United States criminal justice system offers the courts a broad range of sanctions for individuals who commit a crime. These strategies range from incarceration (most restrictive) to unsupervised monitoring while on a probated sentence (least restrictive). Probation is the most common sentence for felons, but one must consider the type of offender who should be placed on probation.

Probation departments use different supervision strategies to deal with the wide range of offenders they are responsible for supervising. Morris and Tonry (1990) prefer the term "intermediate punishments," which refers to a range of punishments or supervision strategies between imprisonment and probation. Supervision options range from the offender reporting to a probation officer on a monthly basis and paying supervision fees to more restrictive options, such as intensive and specialized supervision that may require the offender to report to a probation officer on a weekly basis and attend appropriate rehabilitative programs. Some offenders, who may be considered particularly “dangerous” for causing future harm to others may be placed on electronic surveillance to monitor and restrict their movement and activity yet still allow them to remain in the community.

Officers supervising probationers must determine the most *appropriate* “intermediate punishment” for each offender. Appropriateness refers to the selection of an intermediate strategy that is neither too restrictive and harmful nor too lax, thereby possibly allowing the offender to continue to engage in criminal activity undetected. To this end, most criminal justice systems establish a range of supervision levels (Finn 1981). These supervision levels group offenders into discrete categories that are treated differently with respect to the amount and type of contact they receive. These levels are often based on how offenders previously assigned to the supervision level performed on supervision. Various scientific instruments are available to assist supervision officers in predicting the likelihood that an offender will re-offend while in the community.

The purpose of this study is to provide a comprehensive assessment of the usefulness and effectiveness of prediction and classification of offenders under community supervision. This study focuses on four fundamental questions.

1. What is prediction and classification of offenders?
2. Why are prediction and classification important?
3. What do we know about the reliability and validity of prediction and classification applications?
4. How can prediction and classification be improved?

The remainder of this study answers these four research questions.

Chapter 2: Overview of Prediction and Classification

This chapter addresses the four research questions of this study by summarizing the critical issues for each of the research questions and reviewing the relevant literature. The four research questions are:

- What is prediction and classification of offenders?
- Why are prediction and classification important?
- What do we know about the reliability and validity of prediction and classification applications?
- How can prediction and classification be improved?

Additionally, this chapter provides a historical perspective as a basis for discussing the nature of the prediction and classification of offender behavior.

What is prediction and classification of offenders?

Community corrections professionals utilize a wide range of community-based sanctions to safely control or manage offenders in a community. These sanctions include surveillance programs (e.g., electronic monitoring, intensive supervision), treatment programs (e.g., substance abuse treatment, sex offender treatment), and employment and vocational training programs. Two common processes for sorting offenders into these various sanctions/programs are paramount for the effective supervision of the offender in the community. These processes involve *predicting* the likelihood of an offender engaging in future criminal behavior and *classifying* offenders to differential supervision levels in order to minimize the risk of reoffending and to address rehabilitative needs. Prediction and classification are first reviewed separately, then as they combine.

Prediction Prediction refers to the assessment of a future state of behavior (Gottfredson 1987a, p. 2). In the field of criminal justice, researchers frequently attempt to predict future criminal behavior, primarily recidivism. The ability to predict who is likely to commit a crime again is requisite to controlling that offender's behavior (Gottfredson 1987a, p. 6). This is because modern classification systems are based on predictions (e.g., assessment scores) made by scientific instruments, and the classifications are the basis for decisions on the best way to control offender behavior while they are in the community.

One of the first formal attempts to predict criminal behavior is in a book by Cesare Lombroso titled *The Criminal Man*, written in 1876. Lombroso's focus is primarily on how physical features present at birth (e.g., abnormal nose, abnormal sex organs, and other physical anomalies) predispose one toward committing criminal behavior. Though such categorizations today are acknowledged as inappropriate and prejudicial, Lombroso's theory marks the starting point of the positivist tradition of predicting criminal behavior.

Gottfredson and Hirschi (1987, p. 10) state that "positivism represents the scientific approach to the study of crime where science is characterized by methods, techniques, or rules of procedure rather than by substantive theory or perspective." A simpler representation of positivism calls for the unification of empirical and theoretical criminology. Most of the change relating to predicting criminal behavior took place during the era of empiricism (1900 – 1960s) when prediction models were statistically determined with little link to theory. More recent developments in predicting criminal behavior focus on the unification of theory and data with a high degree of respect for both.

The power of modern technology has been brought to bear on the process of prediction. Coinciding with the development of advanced management information systems, more advanced methods for offender prediction assessments are being explored. Today, prediction models in the field of criminal justice are instruments commonly called "risk assessments". Risk assessments use a combination of past and present psychological, social, socioeconomic, and demographic factors to predict future offender behavior. The risk assessment is administered to an offender who receives a score. The score is supposed to reflect their likelihood of reoffending. These prediction instruments were formalized in the criminal justice system during the 1960s (Champion 1994). Though common in their use, the ability of risk assessments to predict criminal behavior is modest, generally explaining only 15% to 20% proportion of outcome variance (Gottfredson 1987c, p. 33).

Classification Classification refers to categorizing offenders into discrete groups in order to effectively supervise and manage populations most effectively (Gottfredson 1987a). Pragmatic concerns have caused the complexity and utility of these methods to evolve over time. Entities responsible for the supervision of offenders often use classification systems as a method to determine resource allocation, to protect public safety, and to assign offenders to effective interventions or treatment.

While classification has many purposes (Gottfredson 1987a), in this study the term is only being used to mean a grouping that results from findings from a risk assessment instrument. Rule based decisions (e.g., bail or parole decisions based on policy rules) are also classifications, however, they are not predictive of criminal behavior but are more reflections of the pragmatics of dealing with a criminal justice system under pressure. They are the acceptable release valve for this pressure. While the findings of this study point toward the limitations of predictive classification, the study does not address non-prediction classification.

These two methods for determining classification are often confused in the literature. The former is proactive, the latter reactive. In the current literature, it is common to find support for using risk assessments that are acknowledged as not predictive to sort offenders into groups to be supervised and treated differently (Baird 1991, Eisenberg and Markley 1987). It is a fundamental mistake to use the results of an assessment as rules rather than predictions.

Many important decisions are made based on classification systems. Champion (1994, pp. 5 - 20) provides a review of the classification literature and lists the following functions of classification in community-based criminal justice agencies.

- Classification systems enable authorities to make decisions about appropriate offender program placements.
- Classification systems help to identify one's needs and the provisions of effective services in specialized treatment programs.
- Classification systems enable parole boards to make better early-release decisions about eligible offenders.

In all three instances, meaningful classifications can only be based on risk and needs assessment instruments that are predictive. What is needed to make better decisions is insight into offenders' probable future behaviors and needs. Without this, classification is at best slightly better than random and at worst dangerous.

Classification Without Prediction Prediction and classification are two concepts that are inter-linked in a fairly complex manner and difficult to tease apart. Is it acceptable to classify offenders based on criteria that have low statistical predictive accuracy? When it comes to classifying offenders into groups that are supervised and treated differently, classification without prediction can have negative consequences in terms of wasting resources and causing harm to offenders (Petersilia 1997, Andrews 1990, 1996; Erwin and Bennet 1987; Austin and Krisberg 1982; Petersilia et al. 1985).

In principle, risk assessments are intended to indicate how offenders will behave in the future. Misapplications of risk assessments often contribute to their low predictability. A common practice is to administer risk assessments to populations for which they were not designed (Clear 1997, Clear 1988, Wright et al. 1984). For example, the Wisconsin Risk Assessment was developed on a population of Wisconsin parolees and is being used on all sorts of community populations across the country. This assumes that the same factors are predictive across diverse populations. Some jurisdictions "validate" the instrument to their population. This means that the instrument is administered to their population of offenders, and they collect information on how the offenders perform under supervision over time. The observed outcomes of the groups are documented and groups are developed whose members are similar to one another and who differ from members of other groups (Gottfredson 1987a, p. 1). The scores that form the boundaries of these groups are often called cut-off scores. As an example, offenders are commonly separated in the group that failed the most, failed at moderate amounts and failed the least. The classification is based solely on observed occurrence rates, not expected rates of offending.

Accepting these risk assessments as a means to classify offenders adopts the premise that the ten or so criteria in the risk assessment are predictive. The statistical predictive accuracy of each item in the instrument or as a whole is not questioned. Although some argue that risk assessments are not intended to be predictive (Baird 1991), there is precedence for questioning and seeking to improve the poor predictability of risk assessments (Clements 1996, Harris 1994, Gottfredson 1987b, Farrington and Tarling 1985) particularly in the probation arena. Baird (1991, p. 8) suggests that misunderstandings regarding the difference between classification and prediction as it relates to risk assessment strategies can lead to a misuse of statistical procedure and errors in interpretation.

> While accurate prediction would greatly benefit corrections and society, it has not proven feasible in criminal justice. We submit that goals of risk assessment are much more modest; it is simply meant to assign offenders to different categories based on observed rates of success or failure (however defined) on probation or parole (Baird 1991, p. 9).

The process of validation applies the original risk assessment to a new population and adjusts group boundaries (i.e., cut-off scores) based on how they succeed or fail while under supervision. It does not question the predictive accuracy of the original instrument for the new population in which it was applied. Baird claims this is an acceptable method for classifying offenders, however, it can lead to the misuse of the procedure that Baird claims to be arguing against.

Classification systems based on non-predictive risk assessments, even when validated, sort individuals based on known behavior of a study group. They in no way apply the statistics to truly *predict* a state of future behavior. Baird (1991, p.1) contends that as community caseloads began to swell in the 1970s agencies sought methods for stretching their limited resources and that ". . . corrections could no longer afford to see all offenders as often as desired; some method for establishing priorities was needed." That laid the groundwork for classification schemes that are reactive in nature without focusing on the prediction errors caused by the classification instrument. This is questionable.

Also questionable are policy decisions based on the following contention made by Eisenberg and Markley (1987, p. 28):

> Case classification provides a standardized method of prioritizing resources for administration, management, and line staff . . . The scales do not predict individual behavior but do indicate probable outcome based on aggregate data.

This too can lead to prediction errors that can be costly and harmful to offenders, as illustrated below.

Baird (1991, p. 10) gives an example of a "good" classification instrument devoid of predictability where 45% of the highest "risk" group was likely to fail, 23% of the medium risk group and 8% of the lowest risk group. That means that 55% of the high-risk group do not fail, but are supervised and treated as if they will. In terms of resource allocation, this is a very inefficient system. Risk assessments should seek to minimize false positives (i.e., identify individuals as failures who are not failures) and assist in making possible better assignment of limited program resources (Harris 1994). The negative ramification of over supervision of offenders in terms of harm is discussed in further detail in the following section.

The fundamental component of having risk assessments that more accurately predict is to reduce the overall prediction errors by classifying offenders into failure and non-failure groups with the least amount of error. Only then can differential classification schemes for how to treat offenders be developed. Farrington and Tarling (1985, pp. 3-4) note "prediction research has mainly been carried out in an attempt to assist persons in the criminal justice system who have to make decisions." Prediction is the underlying mechanism to accurately classify and thereby make good decisions.

Why are prediction and classification important?

There are two major reasons why accurate prediction and classification are critical to the field of community supervision. Community supervision has become the "dumping" ground for growing populations of offenders that are convicted of serous crimes, which in the past would have been sent directly to prison. To further complicate their ability to supervise the growing populations, community supervision programs historically are not given proportional resources. The ability to safely manage this situation is critical to decision-makers. Likewise, the accurate placement of offenders into appropriate supervision and treatment strategies is crucial if resources are not to be wasted and unintended harm inflected on offenders.

Resources Allocation With the increase in the population of offenders under community supervision, effective and efficient supervision strategies are becoming increasingly more critical. Nearly 4.7 million adult men and women were on probation or parole at the end of 2001 (Glaze 2002). There were 3,932,751 adults under Federal, State, or local jurisdiction probation, and about 732,351 were on parole.

Research from the National Institute of Justice (1995) reports that the probation population has become increasingly higher risk of failing on supervision if judged by prior criminal record, current conviction or substance abuse histories. There is also evidence that over 40% of the probation population fall into either an intensive or maximum supervision level (NIJ 1995). An intensive supervision level is generally for offenders who are at a high likelihood of committing a new crime. Their activity may be monitored on a daily or weekly basis. Offenders on "regular" supervision may be monitored only once per month. In 2001, 27% of offenders under probation supervision were returned to incarceration for violations, absconded (e.g., failed to report and could not be located) or were otherwise unsuccessful.

With an increasing offender population, higher risk offenders, and limited funds, most community supervision agencies have been forced to engage in a triage approach for the supervision of and service delivery for offenders. The triage approach involves assigning priority order to offenders on the basis of where funds and resources can be best used or are most in need. Petersilia (1997, p. 2) notes:

> Probation's funding shortfall often results in lax supervision of serious felons, thereby [possibly] encouraging offender recidivism and reinforcing the public's soft-on-crime image of probation as permissive, uncaring about crime victims, and committed to a rehabilitative ideal that ignores the reality of violent, predatory criminals.

The strains on the probation system can make an otherwise effective system become ineffective by making effective supervision strategies impossible.

As the criminal population continues to grow and prisons fill to capacity, additional expectations are placed on probation type programming to address the growing need for prison alternatives. This leaves policy makers and practitioners in a situation where they need to know what works best and where resources should be put. They need an accurate assessment of an offender's risk of reoffending and rehabilitative needs in order to target appropriate levels of supervision and type of intervention (Gendreau 1993). This is intended to add to the offender's likelihood of success in the community.

Assigning Appropriate Treatment Strategies Numerous studies from the 1980s demonstrate that accurate risk assessments are critical for the appropriate implementation of intermediate sanctions (e.g., Andrews 1990, 1996; Erwin and

Bennet 1987; Austin and Krisberg 1982; Petersilia et al. 1985). Community supervision departments use different supervision strategies to deal with the wide range of offenders they are responsible for supervising. Morris and Tonry (1990) prefer the term "intermediate punishments," which refers to a range of punishments or supervision strategies between imprisonment and probation.

The effectiveness of numerous community-based programs depends on placing the right types of people into the appropriate programs (e.g., Andrews 1990, 1996; Erwin and Bennet 1987; Austin and Krisberg 1982; Petersilia et al. 1985, Wilson 1980). Additionally, providing treatment for inappropriate populations leads to negative results (Wilson 1980). "Throwing" rehabilitative resources at an offender who really does not need them can be harmful to the offender. If low-risk offenders are placed in programs designed for high-risk offenders, they respond less well than they would on less restrictive supervision. This is specifically documented in numerous studies of intensive supervision (e.g., Van Voorhis and Brown 1996, Andrews 1990, Clear 1989, Erwin and Bennet 1987). Imposing strict and frequent supervision reporting requirements on an individual who would function as a law-abiding productive individual without these requirements can cause these offenders to retaliate against the excessive supervision. Programs designed to address the needs of offenders who are at a high likelihood of reoffending should be reserved for those offenders only. If not, resources are wasted, and the programming is ineffective.

Andrews (1996) and Andrews et al. (1990) further address the matching of offenders to appropriate interventions. Details of the three characteristics that may determine level, target and type of rehabilitative effort are provided. The first area deals with the risk of the offender. In general, higher levels of supervision service should be reserved for higher risk cases. Lower risk cases do as well or better with minimal supervision. The second area deals with the needs of the offender. Targets of service should match the criminogenic needs of offenders. Criminogenic needs are behavioral traits of offenders that are correlated with continued law violating (e.g., drug use) and are targeted for intervention. The final area deals with responsivity. To be responsive, styles and modes of service should be matched to the learning styles and abilities of offenders. Some factors to consider are the offender's verbal IQ, maturity level, empathy, self-control, and anxiety level. For example, offenders with low maturity levels are found to respond better to highly structured programs, and offenders with high anxiety levels do not respond as well in group settings as they do in individual sessions (Andrews 1996).

The most recent body of research to address this topic was commissioned by the United States Congress in 1996. The Attorney General was required to provide a comprehensive evaluation of the effectiveness of programs operated by state and local law enforcement and communities in the prevention of crime (Sherman 1997). The University of Maryland Department of Criminology and Criminal Justice undertook the initiative and conducted a review and evaluation of various programs and strategies related to preventing crime.

They emphasize the importance of focusing not on whether a program works, but on the type of offender for whom the program works (MacKenzie 1997, p. 9-17). The review reports that programs must target offenders who are at sufficient risk, so that reductions in reoffending can be measured. Directing resources to low-risk offenders tends to be inefficient since those offenders have low failure rates even without the intervention. In summarizing what does not work, MacKenzie (1997, p. 9-56) states, "Studies of poorly implemented rehabilitation programs given to low-risk offenders using vague behavioral targets were not effective in reducing crime." Furthermore, the study suggests strategic planning to define who should be incapacitated, who should be rehabilitated, who can be deterred, and how to combine restraint and rehabilitation to effectively reduce crime (MacKenzie 1997, p. 9-65). An equally important strategy is to encourage the criminal justice field to study the differential impacts of programs for various sub-populations (e.g., gender, urban/rural, race/ethnicity, and age).

In sum, treatment is more effective when it is matched with the offender's risk of reoffending and their rehabilitative needs. Higher-risk offenders are much more likely to benefit from treatment than lower-risk offenders (Gendreau 1996, p. 122). McGuire and Priestley (1995, pp. 14-15) summarize these guidelines for effective programs as follows:

> *Risk classification*. In more effective programmes there is a matching between offender risk level and degree of service intervention, such that higher-risk individuals receive more intensive services, while those of lower risk receive lower or minimal intervention. (Risk in this sense is defined on an actuarial basis, i.e., based on prior history of offending, and on statistical tables derived from large samples showing subsequent rates of reconviction over time.)
>
> *Criminogenic needs.* Following the precepts of Gendreau and Andrews . . . it is essential to distinguish between criminogenic and non-criminogenic needs, i.e., you should separate client problems or features that contribute to or are supportive of offending, from those that are more distantly related, or unrelated, to it. If the purpose of a programme is to reduce reoffending, there should be a focus within it on criminogenic needs as goals of intervention.

Appropriately identifying high and low-risk offenders and their corresponding criminogenic needs, which can reduce the likelihood of re-offending, is of critical importance to the effective and efficient implementation of community corrections. To accomplish this, valid and reliable prediction and classification tools are needed.

What do we know about the reliability and validity of prediction and classification applications?

As stated earlier in this section, risk assessments use a combination of past and present psychological, social, socioeconomic, criminal history, and demographic factors to predict offender behavior. The risk assessment is administered to an offender who receives a score. The score reflects then supposed likelihood of reoffending. These prediction instruments were formalized in the criminal justice system during the 1960s (Champion 1994).

Lauen (1997), Bonta (1996) and Gendreau et al. (1996) summarize the evolution of offender risk assessments and discuss three distinct generations of offender risk assessments. Though common in their use, risk assessments' ability to predict criminal behavior is modest, generally explaining 15% to 20% proportion of outcome variance (Gottfredson 1987c, p. 33). Discussed in this chapter is an overview of the evolution of risk assessments and exactly how accurate they are in predicting offender behavior. Most attention is given to the risk assessment that is the most commonly used by community corrections agencies: the Wisconsin Risk and Need assessment.

First Generation The first generation of assessments was subjective in nature, involving professional judgement, intuition or a "gut feeling." This is the most basic form of decision-making, which has likely been employed in criminal justice since the first laws were enforced. To varying degrees, these assessments are still utilized. Clear and Gallagher (1985) refer to this as a method involving no classification system. Clear and Gallagher note that the biggest problem with this method when applied to a community corrections setting, is that the supervision policy is left to the discretion of the officer supervising the offender. Without a classification system, it's as though the organization has no policy regarding its clients. In practice, however, this void is replaced by multiple policies, with each individual officer creating a personal policy based on a personal understanding of the supervision policies of the agency (Clear and Gallagher 1985, p. 426).

An additional problem that arises is a lack of accountability both on the part of the officers and the agency. An accountability system is essential to determine the effectiveness of public sector initiatives (Affholter 1994, p. 99 – 102). Management expectations must be clearly articulated, and an employee's performance in carrying out these expectations is the fundamental starting point of any accountability system. If employees are not provided direction, they are likely to proceed in whatever direction they believe is the best from their perspective. In the community supervision setting, if clear policy and practice are not established on how best to respond to a certain type of offender given the resources available, a supervising officer may opt to apply any number of strategies. Some of these strategies may be more or less effective. If the results of applying a certain type of strategy to a specific offender population are not documented and articulated, from a policy standpoint, justification of resources is difficult.

Second Generation The second generation consists of objective prediction scales based primarily on static predictor variables. Burgess (1928) established the first of these models. The Burgess model is the most simplistic prediction method. In the Burgess method, each variable in the model can be scored as a "point," and the prediction is based on the aggregate number of points assigned to an offender. This technique gives equal weight to all predictors, even though there may be unequal effects (Gottfredson 1987).

One of the major advantages of the Burgess model is that it tends to be generalizable across a diverse group of offenders and populations. The instrument also has a high degree of inter-rater reliability, is efficient in that there is no duplication of variables, and it is easy for users to score and understand. The major disadvantage of the instrument is that it only contains static predictor variables. Predictor variables that are *static* generally do not change over time. Examples include criminal history variables and age at first offense. As a result, the instrument cannot be used to gauge an offender's progress over time, and it cannot be used for identifying rehabilitative options that may impact an offender's future behavior. For this, criminogenic needs must be considered.

Third Generation The third generation of assessments blends some concepts from the subjective instruments of the past, applies the static predictor variables of the second-generation instruments, but also includes dynamic criminogenic need items, as a consideration for assessing treatment needs. Dynamic criminogenic need variables are assessment factors reflective of offenders' behavioral traits that may change over time.

The Wisconsin instrument was originally developed in the late 1970s and is a third generation assessment instrument. The state of Wisconsin originally designed the instrument as a method for budgeting its community supervision resources. The state wanted to know the amount of time it took to supervise offenders of varying risk levels. A workload-based method for allocating community supervision resources was adopted.

The risk assessment scale was developed using multiple outcome measures (e.g., absconding, rule violations, arrests, and convictions). Criminal history and socioeconomic factors were entered into a multiple regression analysis to determine which factors would best predict future criminal behavior (NIC

1982). The following ten factors are the most predictive: number of address changes in last 12 months, percent of time employed in last 12 months, alcohol usage problem; other drug problem, attitude of the offender (e.g., negative thoughts or beliefs), age at first conviction, number of prior periods of probation/parole supervision and revocations, prior felony convictions, and convictions for either burglary, theft, auto theft, or robbery, or worthless checks or forgery. As an administrative policy override, prior or current assaultive offense history was added to the instrument with a weighted score that would automatically classify an offender as high risk. An override is a policy decision made to classify all offenders with a certain characteristic, in this case assaultive offense history, as high risk, even though that variable was not statistically predictive in the regression model.

Gottfredson et al. (1989, p. 93) speak to the issue of administrative overrides being more of a function of the stakes of an offender reoffending than the probability. Risk references the probability of a new offense and stakes references the harm expected if new offenses are committed. For example, an individual may have a stable job and no prior history, but be convicted of a violent sex crime. On a risk assessment, they may score low risk due to limited documented criminal history and employment stability. However, if that offender does re-offend, there could be considerable harm to the victims. That represents the stakes of reoffending. Because of this concern, many community supervision entities, as with the Wisconsin instrument, override with stake items that are not necessarily predictive.

To date, the Wisconsin Risk and Need assessment instrument is the most widely used assessment instrument among probation and parole agencies (Jones et al. 1999). For being the most commonly used instrument, very little comprehensive research has been conducted on its predictive accuracy.

Wisconsin Risk and Need Assessment Predictive Accuracy Studies on the predictive accuracy of the Wisconsin Risk and Need assessment instrument are far from promising. Many previous researchers document the limitations of this type of risk prediction (Clear and Byrne 1992, Gottfredson 1987, Glaser 1987, Smykla 1986). Gottfredson (1987, p. 33) writes "when normative prediction studies are considered, the proportion of outcome variance explained rarely exceeds .15 - .20; it is often lower". Wright et al. (1984) find that the Wisconsin instrument does not predict recidivism well for a population of New York probationers, and warns "probation and parole agencies should not place their confidence in these instruments until they have been validated" (p. 127).

One measure of a prediction model's accuracy is the relative improvement over chance (RIOC). RIOC introduced by Loeber and Dishion (1983) and further refined by Farrington and Loeber (1989) measures the extent to which a risk assessment improves over chance guesses. The RIOC consists of computing the base rate (number of offenders failing in the population) and the selection rate (number of offenders selected by the prediction model as failing). Utilizing that input information, three models are computed. Outcome Chance (OC) is a measure of the predicted model's performance. A Random Model is computed using a function of the base rate and selection rate to generate a purely random model. The Maximum Model (MC) computes the maximum values that could occur in the model's cells using the selection rate and base rate. Theoretically, this is the best the model could perform. The RIOC = (OC – RC) / (MC-RC).

The RIOC is an important indicator of the quality of a risk instrument, given that prediction tools are more or less accurate as a function of the sizes, base rate, and selection rate (Harris 1994, p. 160).

Harris (1994) studied a sample of adult felons placed on probation in Travis County, Texas. The purpose of the study was to compare the predictive accuracy of the Wisconsin risk assessment, a case management system called Client Management Classification (CMC), and a combination of the two instruments. The result of how well the Wisconsin risk assessment performs for predicting the probation outcomes of revocation and arrest in the Harris (1994) study are presented in Table 2.1. In general, Harris found high prediction error rates with the Wisconsin risk assessment.

Yacus (1998) conducted a study to determine how well the Wisconsin risk and need assessment instrument performs in classifying adult felony offenders in Virginia. A sample of 13,011 adult probation and parole offenders who were placed under supervision in 1994 was used. The dependent variable was success on supervision. The following table summarizes significant findings from Harris (1994, p. 161) and Yacus (1998, p. 80).

Table 2.1: Predictive Accuracy of Wisconsin risk assessment for the current study, compared to two different studies

	True Positive		False Positive		True Negative		False Negative			
Model Type	%	N	%	N	%	N	%	N	RIOC	Error Rate
Harris (1994) Risk - Arrest	9	35	47	187	42	166	2	8	57.7	49
Harris (1994) Risk – Rvk.	13	52	43	170	41	161	3	13	54.5	46
Yacus (1998) Risk – Succ	57	577	22	223	9	94	12	119	18.7	34

Both studies have high classification error rates. In Harris (1994), the false positive rate is very high, which means the instrument tends to over select offenders as likely to fail (e.g., arrest or revocation) who do not. In Yacus (1998), the predicted outcome is probation success, so a true positive is an offender who is predicted to be successful and is successful, and a true negative is an offender who is predicted to fail and does fail. In the Yacus study, the instrument over classifies offenders as being successful.

Since the RIOC is a function of both base rates and selection ratios, it should be analyzed in the context of the overall classification results. The higher RIOC results observed by Harris (1994) are primarily due to the over selection of false positives. This is reflected in the higher error rate on the performance of the Wisconsin instrument on that sample. Harris (1994, p. 162) finds that risk predictions performed with CMC " . . . were not only more accurate, but make a greater improvement over chance than predictions based solely on the Wisconsin instrument for each of the outcomes measured." In Yacus (1998) the true negative rate and the RIOC are low. (Note: I compute Yacus (1998) RIOC from the reported information in the classification table.) Since the outcome predicted is success, the Wisconsin instrument over selects offenders at a rate of 22% who are predicted to be successful on probation and are not.

Sims and Jones (1997) conducted a study to determine factors associated with probation outcomes. The assessment instrument used in the study was very similar to the Wisconsin risk assessment. A sample of 2,850 felony probationers in North Carolina was used. Success or failure on probation was the dependent variable. The independent variables were general background variables, risk assessment scores used by probation officers to determine offender supervision levels, and the risk assessment instrument items. Two logistical regression models were tested. Model 1 consisted of background items (e.g., age, race, offense type, and sentence length) and result of assessment scores (e.g., supervision level), and total score on the assessment. Model 2 consisted of the 13 individual variables that made up their version of the Wisconsin type risk assessment. Table 2.2 summarizes the major findings from the Sims and Jones (1997, p. 323) regression models.

Model 1 out performs Model 2. Model 2 is similar to the logistical regression models generated in this study that use the Wisconsin risk variables to predict probation revocation.

Table 2.2 Predictive accuracy of the Wisconsin style instrument

Model Type	Base Failure Rate	Percent Classified Correctly	Pseudo R^2
Sims and Jones (1997) Model 1	57%	81%	.341
Sims and Jones (1997) Model 2	57%	71%	.206

This table is further support of the poor predictability of Wisconsin style variables. Model 1, which does not include individual risk prediction items, outperforms the model based on the risk assessment variables. Only the statistics reported above are provided, therefore, error rates of classification and the RIOC are not known.

Factors that Affect the Predictive Accuracy of Wisconsin There are at least two issues that may affect the predictive accuracy of the Wisconsin instrument. The dynamic criminogenic need items are not included as predictor variables of criminal behavior. Many other studies find criminogenic need items to be predictive of criminal behavior (Gendreau 1996, Andrews and Bonta 1994, Andrews 1990). A second area of concern is the inter-rater reliability of the Wisconsin assessment. The subjective nature of some of the assessment questions may diminish its predictive accuracy. Risk assessment items that require rater interpretations (e.g., Does the offender have a drug problem?) may be completed inconsistently, weakening the factor's predictability.

In the development of the Wisconsin Risk and Needs Assessment, a need scale which contains criminogenic variables was established based on offender problem areas where supervision officers were spending most of their time (e.g., substance abuse, employment, education). The need items were not determined based on their ability to predict future criminal behavior. At least one study was conducted to determine how predictive the need variables in the Wisconsin instrument are of criminal behavior (Hale 1987). Hale includes both the risk and need variables into a stepwise multiple regression analysis. The risk variable most predictive of supervision level placement is prior number of probation and parole supervision periods, followed by the need variable employment history. In sum, eight risk variables and four need variables explain 76% of the variance in the supervision level assignment.

The level of inter-rater reliability on the Wisconsin instrument varies. The risk items are fairly easy to score because they require less interpretation and judgement on the part of supervision officers (Gingerich 1984). The need items are subjective and require an officer's professional judgement. "Without a careful, professionally administered interview, the resulting ratings on the needs assessment are likely to be invalid" (Gingerich 1984, p. 13). NIC (1982) documents an overall 87% agreement for officers completing the need items. The lowest level of agreement was on the emotional stability item (79%) and the mental ability item (79%). The inter-rater reliability directly feeds into ease of use of the instrument. If a thorough interview is conducted, up to one hour could be needed to complete the assessment. How user-friendly the instrument is depends in part on the experience and training of the supervision officer conducting the interview and completing the assessment.

In sum, the Wisconsin Risk and Need Assessment is the most widely used but not widely studied prediction and classification instrument. The Wisconsin instrument is an improvement over the Burgess model in that it at least considers dynamic variables. However, the dynamic variables are not included in the prediction model. The generalizability of the instrument and how well it performs on certain sub-populations (e.g., race, and gender) is questionable. Limited research is devoted to how well the instrument performs for diverse geographical populations (e.g., urban, inner city, rural). Though the original model was constructed using multiple criterion variables, most validated models rely on rearrest and revocation as dichotomous variables. Also, some findings suggest that there is redundancy demonstrated through multicollinearity between the risk and need variables. Finally, in general, the instrument is user-friendly, but the subjectivity of the need items causes concerns for inter-rater reliability and the degree to which the need items could be robust *dynamic predictor variables*.

How can prediction and classification be improved?

Most decisions throughout the criminal justice system are predictive (Gottfredson 1987b, p. 2). Whether the goal is rehabilitation, treatment, or deterrence, decision-makers attempt to predict the offender's behavior with the ultimate goal of crime reduction. For rehabilitation and treatment, it is assumed that offender behavior can be changed; for deterrence it is assumed that the punishment will deter future criminal behavior.

There are three major themes that indicate how the predictive accuracy of prediction instruments can be improved (NIC 2002, Clear 1997, Gendreau et al. 1996, Gottfredson 1987b, Farrington and Tarling 1985, Wilkens 1980). The literature consistently points to these major areas for improvement.

- Increasing the accuracy of the information used to construct the prediction models in the first place.
- Including criminogenic need items in the prediction models.
- Obtaining more ideal (i.e., closer to 50%) base-rates of the behavior which one is predicting.
- Increasing the representativeness of the samples used to design the prediction instrument.

Accuracy of Prediction Data The poor data commonly available in community corrections are in part responsible for the poor predictability of more complex prediction models (National Institute of Justice 2002, Holsinger et al. 2001, Silver et al. 2000, Van Voorhis and Brown 1996, Gottfredson 1987b, Farrington and Tarling 1985). Data available in existing case records often contain supervision officer opinion, hearsay, and haphazardly recorded and maintained information (Wilkens 1980). The predictability of an assessment model is constrained by the reliability of both criterion and predictor measures (Gottfredson 1987b, Farrington and Tarling 1985,).

The inclusion of subjective variables in third generation instruments is an issue. Subjective variables decrease inter-rater reliability and lead to less accurate prediction. Objective dynamic variables that predict criminogenic needs are not firmly established.

Including Criminogenic Need Items Third generation instruments do not include dynamic predictor variables in the overall risk scales. These factors are included based on theory or the impact they have on a supervision officer's workload. The extent to which these variables could be robust predictor variables is largely unstudied. Most classification systems exclude dynamic risk predictors from the overall risk classification by placing them in a separate *need* instrument. Recent meta-analysis suggests that the robustness of risk prediction could be improved if the dynamic risk predictors were incorporated into the overall risk assessment (Gendreau et al. 1996, Clear 1997).

Base Rate When developing a prediction instrument, the base rate is always a critical factor. Gottfredson (1987b, p. 7) notes "the more frequent or infrequent an event, the greater the likelihood that prediction will not be more accurate than the base rate." Some outcomes will always have low base rates regardless of the sample obtained, because the events are rare (e.g., sexual offending, school violence). The best strategy to possibly overcome low base rates when designing a prediction model is to collect information on numerous outcomes to determine if more predictive instruments can be developed modeling the outcome with a more optimal base rate.

Representativeness of Sample The sample used in the construction of the assessment instrument must be representative of the population for which the device is intended (Holsinger et al. 2001, Gottfredson 1987b, Clear and Gallagher 1985). Obtaining a large sample for which the instrument is going to be applied is necessary to optimize its predictive accuracy.

Summary

Following is a summary of the areas for improvement and issues to consider in developing risk assessments with increased predictive accuracy.

- Obtain objective and accurate information to use to construct the prediction model.
- Incorporate dynamic risk predictors into overall risk assessment.
- Determine the extent to which dynamic *need* variables are robust predictor variables.
- Determine if composite measures are better predictor variables than individual predictors.
- Construct prediction models using multiple criterion variables to minimize base rate issues.
- Test the ability of objective dynamic variables to predict criminal behavior.

- Obtain a sample that is representative for the population it is being constructed to assess.

Chapter 3: Research Design and Methodology

From the review of the literature, it is clear that valid and reliable offender prediction and classification are critical for the effective and efficient operation of community corrections. Inappropriate classification can reduce the chances of offenders completing community supervision successfully and potentially increases the likelihood of re-offending. Additionally, providing treatment for inappropriate populations tends to negate positive results. In general, higher levels of service should be reserved for higher risk cases.

This study tests the accuracy of the most commonly used third generation prediction and classification instrument (i.e., Wisconsin Risk and Need Assessment) and explores the creation of a new fourth generation prediction model. By incorporating both static and dynamic predictor variables and using more accurate measures, the fourth generation model should hypothetically lead to a more accurate prediction and classification system than is currently in place.

Data

A data collection instrument was developed by the Texas Department of Criminal Justice (TDCJ) and the Criminal Justice Policy Council (CJPC) in July 1993 to test the validity of the Wisconsin Instrument in use in Texas as well as develop "better" predictor variables for a variety of dependent variables (e.g., rearrest, probation failure, drug use, absconding). The project consisted of collecting detailed statewide information on all felony offenders placed on probation in Texas during one selected month.

TDCJ and CJPC staff initially drafted the data collection instrument. It was refined during a weeklong National Institute of Corrections seminar, Technology of Offender Risk Classification, during September 1993. Todd Clear, Ph.D. also provided assistance on the design of the instrument and potential items to include. The Felony Cohort Data Collection instrument contains 61 variables (see Appendix A). All of the Wisconsin Risk and Need variables are included. In addition to the risk/need items, 37 other potential static and dynamic predictor indicators are included. Table 3.1 provides an overview of the additional items collected. The Felony Cohort instrument contains a comprehensive combination of static and dynamic predictor variables, making it appropriate for developing and testing fourth generation measures and models.

Table 3.1: Felony cohort variables collected

Probationer Information (9 variables)
- County Location
- Name
- State Identification Number
- Social Security Number
- Date of Birth
- Race/Ethnicity
- Gender
- Marital Status
- Current Living Arrangement

Current Offense (7 variables)
- Disposition Date
- Date of Original Probation Intake
- Current Offense Grid that collects all Offense Names, Levels, Dispositions and Lengths
- Type of Intake (e.g., regular probation, return from shock incarceration)
- Whether a weapon was used in committing the offense
- Weapon type
- Legal status at the time the offense was committed (on probation, on parole)

Criminal History (7 variables)
- Primary source used to obtain the information
- Criminal gang affiliation
- Prior juvenile record
- Prior offense grid that collects the number of prior felony and misdemeanor arrests and convictions for the following offense types: property, personal, drug, alcohol and other
- Number of non-probated sentences to incarceration in jail, Texas Youth Commission, and prison
- Number of prior adult felony periods of probation/parole supervision
- Number of prior adult felony probation/parole revocations

Social History (3 variables)
- Highest grade completed
- High School diploma or GED
- Current employment status

Table 3.1: Felony cohort variables collected continued

Substance Abuse (5 variables)

- Under the influence at the time of the offense
- Number of times in treatment
- Use of illicit drugs by injections during the past 12 months
- Frequency of alcohol consumption during the past 12 months
- Frequency of illegal use of the following drugs during the past 12 months: cocaine/crack, opiates/heroin, sedatives/hypnotics, marijuana/hashish, amphetamines/methamphetamine, inhalants, other

Probation Sanctions (5 variables)

- Program placement (e.g., no placement, intensive supervision probation, surveillance probation, specialized caseload, residential placement
- Whether the placement was court ordered
- For non-residential placements: number of monthly contact for the first six months
- For residential placements: the facility type
- Other sanctions imposed on the offender (e.g., jail time, educational program)

Sample

The data collection for the project took place during October 1993. The methods detailed in this section are extracted from the TDCJ-CJAD and CJPC (1995) report: *Felony Cohort Project: Methodology and Overview.*

Data forms were completed on all felony community supervision intakes during October 1993. Community Supervision Officers completed the information in addition to the Wisconsin Case Classification Risk/Needs Assessments. TDCJ-CJAD Standards, Section 136.35 (d)(3), requires initial assessments to be completed within 45 days of intake, ensuring that the forms were completed in a timely manner and that the information collected reflected the status of the offender at intake.

Obtaining valid and reliable data from across the state was critical. To ensure data reliability, TDCJ-CJAD and CJPC conducted a total of ten training sessions across the state attended by 519 representatives of Community Supervision and Corrections Departments (CSCDs). Training sessions were held regionally during September 1993 in Austin (two sessions), Houston (two sessions), El Paso (one session), Dallas (two sessions), Corpus Christi (two sessions) and Lubbock (one session).

To further ensure data validity and reliability, site validity checks were conducted during October and the first part of November 1993. TDCJ-CJAD and CJPC staff visited Travis, Bexar, Jefferson, Harris, Cameron, Hidalgo, Nueces, Dallas, and Tarrant counties. Completed felony cohort forms were checked for accuracy against the intake and supervision information located in the offender's file. The CSCD staff assisted in pulling and reviewing the files. The CSCDs not involved in site validity checks sent their first batch of completed forms to TDCJ-CJAD and CJPC for an initial review. As a final step, the designated Evaluation Coordinator for each CSCD was instructed to collect all Felony Cohort data forms for the department, ensure that forms were completed for each original felony supervision intake, and mail the completed forms to TDCJ-CJAD.

Forms delivered to TDCJ-CJAD were manually checked for reporting errors. To reduce time and resource expenditures, most errors were resolved by telephone. Site visits were conducted to resolve errors in the larger departments. Finally, computerized error screening flagged remaining errors, and corrections were made.

The number of forms completed by each CSCD was checked against the number of "Felony Original Probation Placements" reported to TDCJ-CJAD on the required Monthly Community Supervision and Corrections Report (MCSCR, section II.A1 1.). During October 1993, 4,929 community supervision intakes were reported by CSCDs on the MCSCR. There were 4,245 valid felony cohort forms completed. This amounts to an 86% response rate. No systematic reason for missing forms was found during the error resolution phase.

All offenders in the sample were convicted of at least one felony offense that resulted in placement on community supervision during October 1993. The felony cohort sample consists of 4,235 offenders from 116 CSCDs. The four CSCDs from which no data were obtained had a total of six community supervision placements during the study period.

Approximately 14% of the sample was under indirect supervision at the time the questionnaire was completed. Indirect supervision occurs when an offender transfers to another county or state, absconds, or is serving time in a jail, prison, or other secure residential facility. Since these offenders were not available to be interviewed, only demographic, offense, and sentence information were completed. Those offenders under indirect supervision are not included in this study.

Follow-up forms were developed to track the offenders' progress at one year, two years and three years (see Appendix B). Baird (1991, p. 21) notes most research indicates that 18 months is adequate [for a follow-up period] but that 24 to 36 months or longer is ideal. This timeframe represents the period of time in which most offenders who are going to get rearrested or otherwise fail on community supervision in fact fail. Table 3.2 details the variables and criterion variables obtained during the three follow-up periods.

To conduct this study, the data set compiled by TDCJ-CJAD was requested, and the following analysis was performed to assess the completeness of the information. Follow-up information is not available over the three-year follow-up period for 288 offenders. The method used for obtaining follow-up data breaks down when offenders transferred between CSCD judicial districts. This is the main cause of the missing data. Data analysis was conducted to determine if there was any systematic difference for offenders with no follow-up data and those with follow-up data. The missing follow-up data are distributed across most of the CSCDs. There are follow-up data missing from 77 of the 120 CSCDs. Chi-square tests also were conducted to document any differences across groups in sentence type (x^2 = .096, df = 1), race (x^2 = 8.999, df = 4), gender (x^2 =.

808, df=1), Wisconsin risk score (x^2 = .808, df = 2), and Wisconsin need score (x^2 = .113, df = 2), none of which are statistically significant. Therefore, the 288 offenders were filtered from the data set and were not included in this study. This makes the final sample 3,405.

Table 3.2: Felony cohort follow-up variables

One Year Follow-Up	Two Year Follow-Up	Three Year Follow-Up
Status as of 10/31/94 Under direct supervision Under indirect supervision No longer under supervision	Status as of 10/31/95 Under direct supervision Under indirect supervision No longer under supervision	Status as of 10/31/96 Under direct supervision Under indirect supervision No longer under supervision
Type of Termination and Date	Type of Termination and Date	Type of Termination and Date
Arrest for new offense type and date	Arrest for new offense type and date	Arrest for new offense type and date
Probation violation reasons and date	Probation violation reasons and date	Probation violation reasons and date
Result of probation violations	Result of probation violations	Result of probation violations
SCS Level		
Number of UA test given and positive		
Percentage of time employed	Percentage of time employed	Percentage of time employed
	Residential facility placements since October 1993	

These data are unique and well suited for this study for the following reasons.

- The Wisconsin risk and need items are available

- Static and dynamic variables are available
- The data set allows for a test of how well the Wisconsin variables and other predictors model criminal behavior
- Multiple criterion measures were collected over a three-year follow-up period.

Felony Cohort Dataset

This section provides additional information on the types of variables and their definitions that are available in the felony cohort dataset. The dependent and independent variables are discussed separately.

Dependent Variables Multiple dependent variables are available in this dataset. The dependent variables listed below allow for traditionally applied logistic regression modeling. The term located inside the parentheses is the variable label assigned to each variable.

Recidivism: Subsequent arrest for a Class B misdemeanor or greater.

(Recid_YN): Subsequent arrest for a Class B misdemeanor or greater within three years (code 1 for Yes and 0 for No).
(Recid_VL): Subsequent arrest for a violent offense within three years (code 1 for Yes and 0 for No).

(Recid_PR): Subsequent arrest for a property offense within three years (code 1 for Yes and 0 for No).

(Recid_OT): Subsequent arrest for other offense within three years (code 1 for Yes and 0 for No).

Probation Status: Probation status after one year, two years and three years (code 1 for under direct supervision, 2 for under indirect supervision and 3 for no longer under supervision).

(ProbS_1): Probation status after one year

(ProbS_2): Probation status after two years

(ProbS_3): Probation status at three years

Absconder: Offenders who absconded which means evaded direct supervision for over three months.

Type of Termination and Date (TermType) (TermDate): Probation termination type and date were tracked over the three-year period (codes 1 expired/early termination, 2 death, 3 revoked to shock incarceration, 4 revoked to state boot camp, 5 revoked to jail, and 6 revoked to TDCJ).

Motion to Revoke (MTR) Probation Filed: Whether a MTR was filed during each follow-up period (code 1 for yes and 2 for no).

(MTR_1Y): MTR during first year.

(MTR_2Y): MTR during second year.

(MTR_3Y): MTR during third year.

MTR Result: For offenders with an MTR, the results were tracked. Types of outcomes included modification, dismissal, revocation, or pending resolution.

Urine Testing (UATest): The number of urine tests conducted during the follow-up period and the number of tests that were positive were tracked. Percent of positive tests during the first year of supervision was obtained. Not all offenders in the sample will be subjected to the same testing method; therefore, there may be offenders who were never urine tested.

Percentage of time employed (EMPLOY): During each follow-up period, the percent of time the offender was employed was obtained. The values collected were less than 50%, more than 50% or not applicable (e.g., student, homemaker, retired or disabled).

Independent Variables Independent variables included in the dataset fall into two areas: static predictors and dynamic predictors. Again, the static predictors generally do not change much over time and are traditionally linked to an offender's risk level. The dynamic predictors can change over time and can be targeted as areas for possible intervention. These are traditionally referred to as criminogenic need indicators. Detailed definitions of how each variable is coded are available in Appendix A. The term located inside the parentheses is the variable label assigned to each variable. These labels will be used throughout.

Static Predictor Variables Following is a list of independent variables that have construct validity for predicting future criminal behavior. Numerous variations of some traditional predictor variables (e.g., prior criminal history) are detailed. These variations are proposed to address both the validity and reliability of assessment items.

Age (Age): The age of the offender when placed on probation (Disposition Date - Date of Birth).

Race/Ethnicity (Race): The race/ ethnicity of the offender categorized as white, black hispanic or other.

Gender (Sex): The gender of the offender.

Marital Status (Marital): The marital status of the offender when placed on probation coded as either married, remarried, widowed, separated, divorced or never married.

Current Living Arrangement (Living): The living arrangement of the offender when placed on probation coded as either living with spouse and/or children, living with mother and/or father, living alone, or other.

Current Offense (Offense): The current offense categorized as a violent offense, property offense, drug offense, vice/family, driving while intoxicated. Violent offense includes: homicide, sexual assault, robbery, kidnapping, and indecency by contact. Property offenses include burglary, forgery/fraud, theft, and destruction of property. Drug offenses include: sale, manufacture, distribution, and possession of a controlled substance. Vice/family offenses include: weapons violations, promotion of gambling, organized crime, criminal non-support, and non-violent sex offenses.

Disposition (Dispos): The disposition of the most serious felony offense for which the offender was probated. The two possible dispositions are: deferred adjudication which is a form of probation that if completed successfully will prevent a final conviction from appearing in the offender's record; or adjudicated probation which is the release of a convicted defendant by the court under conditions imposed by the court for a specified period during which the imposition of the sentence is suspended.

Weapon (Weapon): Whether a weapon was used in committing the probated offense.

Weapon type (Wtype): The type of weapon used differentiating between firearms, knife, or other.

Legal Status (Legal): Whether the offense was committed while on probation or parole.

Geographic Location (GeoLoc): All probation departments are categorized as either being urban, suburban or rural.

Criminal Gang Affiliation (Gang): This is an indicator of the whether the offender has been involved in any gang activity.

Prior Offense (Priors): Numerous predictor variables have been created from the prior offense grid. *Priors* reflect the total number of prior felony and misdemeanor arrests.

Prior Felony (PR_Felony): Number of prior felony arrests

Prior Felony Property (PR_FelP): Number of prior felony property arrests

Prior Felony Persons (PR_FelPE): Number of prior felony arrests against a person

Prior Felony Drug (PR_FelD): Number of prior felony drug arrests

Prior Felony Alcohol (PR_Fel_A): Number of prior felony alcohol arrests

Prior Misdemeanor Offenses (PR_Misd): Number of prior misdemeanor arrests

Prior Non-Probation Sentences to Incarceration (PR_Incarc): Number of prior sentences to either jail, the Texas Youth Commission and/or prison.

Prior Prison (PR_Prison): Number of prior sentences to prison.

Prior Adult Felony Probation/Parole Supervision (PR_Super): Number of prior periods of adult felony probation/parole supervision.

Prior Adult Felony Probation/Parole Revocations (PR_Revs): Number of prior adult probation/parole revocations.

Influence Alcohol/Drugs (Inf_A&D): This is an indicator of whether the offender was under the influence of alcohol and/or illegal drugs at the time of the current offense.

Substance Abuse Treatment (SA_Tmt): The number of times the offender has participated in alcohol/drug abuse treatment.

Dynamic Predictor Variables Following are dynamic predictor variables that assess offenders' criminogenic needs. These factors are considered since criminogenic need is linked to criminal behavior (Andrews and Bonta 1994, Andrews, Bonta and Hodge 1990). In addition to the items listed in this section, the Wisconsin case classification risk and need variables also will be used to develop a baseline model (see Appendix A).

Highest Grade Completed (Grade): The highest grade in school the offender completed.

High School Diploma or GED (HS_GED): Whether or not the offender has a high school diploma or a GED.

Employment Status (Employ): The employment status of the offender when placed on probation coded as either full-time, part-time, seasonal, student/retired/homemaker/disabled, or not employed.

Intravenous drug use (IVUse): An indicator as the whether the offender has used illicite substances by injection during the past 12 months.

Frequency of Substance Abuse: Numerous variables are collected regarding the frequency with which offenders have used alcohol or drugs during the last 12 months. The coded items report no regular use, monthly use, weekly use, three to four times a week, and daily.

Frequency of Cocain/Crack Use (FreqCrack)

Frequency of Opiates/Heroin (FreqOpit)

Frequency of Sedatives/Hypnotics (FreqSed)

Frequency of Marijuana/Hashish (FreqMarj)

Frequency of Amphetamines/methamphetamine (FreqAmph)

Frequency of Inhalants (FreqInha)

Data Analysis

Three major levels of analysis are conducted. The first level of analysis involves providing descriptive information on the data set. This determines the generalizablity of the information, establishes the base rate for each dependent variable, and identifies problematic data. Problematic data are cases or variables with considerable missing data or extensive coding errors. The second level of analysis tests the validity and reliability of the predictor variables. The validity of the variables is tested to determine which variables are correlated with each criterion variable. The reliability analysis is conducted to assess multicollinearity issues between the independent variables and to determine if composite indicators can be established. Multicollinearity arises when two or more variables are highly correlated with one another and can lead to inefficient prediction models if not addressed (Pindyck and Rubinfeld 1991, p. 84). The third level of analysis is the construction of logistic regression models. Comparisons are made between the Wisconsin model and other models generated from the set of predictor variables contained in the felony cohort sample. These models include dynamic predictor variables that are correlates of criminal conduct constructed to compete with the Wisconsin model. Specifically, new indicators of substance abuse, education, employment and companions that are included in the felony cohort data collection form are tested to determine their potency. The new indicators are unique in that they are more objective than the traditional indicators. The new indicators rely less on the instrument administrator's interpretation of the variable and more on verifiable information.

Descriptive Analysis This section describes the types of offenders placed on probation in Texas in 1993. Frequency tables and cross tabulations are utilized to present descriptive data on the entire data set. Additionally, analysis is done to assess variables to be included in prediction models in later sections. Variables with more than 15% of the responses missing are eliminated from further analyses due to the potential unreliability of the data.

Offender risk and need scores are computed using the current Texas Wisconsin Risk and Need weighting scheme. This serves as a baseline for comparisons to be made in the following section between the current Wisconsin model, a Wisconsin model constructed using the felony cohort data set, and additional models constructed using other predictor and criterion variables.

Descriptive data are also presented on the three years of follow-up information. Each potential criterion variable is reviewed to determine the extent to which follow-up information on all offenders in the sample was collected over the entire three-year period. Offenders for whom follow-up information is incomplete are deleted from the sample. A chi-square test between the excluded offenders and the entire population on demographic and computed risk and need variables is conducted. The purpose is to determine whether the offenders with incomplete follow-up information are statistically different from the remaining sample to ensure that exclusion of the offender records does not skew further analysis.

The final step is to determine the base rate for each dependent variable. The base rate is the rate at which an observed event occurs within a population. Generally speaking, a base rate of .5 is optimal for producing prediction models that classify a high number of subjects correctly (Baird 1991, p. 15). Gottfredson and Gottfredson (1979, p. 3) note:

> To the extent that the base rate differs from .50, difficulty of prediction of an event increases. Thus, the more infrequent an event, the greater the likelihood of inaccurate prediction.

For example, if a relatively low number of individuals “fail” (e.g., 20%), there is a small pool of failures in which to base the prediction models, thus increasing the likelihood of classifying offenders incorrectly.

Validity and Reliability Analysis This section discusses the methods used to conduct validity and reliability analysis on the cohort dataset. The goal is to test the predictive validity of the variables and determine the extent to which index predictors can be created by combining variables. Two different types of data analysis are conducted. Correlations are used to test initially for predictive validity, and reliability analysis is conducted to test the internal consistency of the index components.

Predictive validity is determined by the degree of correspondence between predictor(s) and criterion. A simple Pearson correlation statistic is used. Variables that are not correlated with the dependent variables (i.e., arrest, revocation and probation success) do not have predictive validity. Due to the large data set (n = 3,405) and numerous variables, correlations are likely to be significant. The typical level of significance for correlations is .05 or less. In this study, the level for inclusion is more stringent, therefore an alpha of .01 level (2-tailed) is used.

Reliability analysis is conducted to determine if variables can be grouped and combined to create composite predictor variables. The correlations between variables in each of the major theoretical groupings (e.g., substance abuse, criminal history, academic, and employment) are analyzed using reliability analysis. This is done for two primary reasons. First, creating one effective and efficient composite variable can reduce any collinearity that exists between factors that measure similar items. Since the set of variables is large and partially untested, this is a necessary step. Nunnally and Bernstein (1994, p. 251) note that since reliability is an important measurement method, investigations should be made when new measures are developed. Second, the constructed composites can potentially decrease the number of variables used, without losing predictability. That is, factors can be removed from reliability scales without losing predictability. Also, the average effect of the constructed composite may prove more effective that any one individual variable.

Model Construction This section discusses the methods used to construct various prediction models. Using the existing Wisconsin risk and need items as a baseline, exploratory models are constructed to determine predictive accuracy. Additionally, models are constructed including the static and dynamic predictor variables that may improve on the statistical strength of the models. The following methods are applied to the construction of all of the models discussed.

Models are developed using logistic regression. Regression requires the assumption that for each value of the predictor variable, scores on the dependent variable be normally distributed with equal variance (Kachigan 1991; Hedderson 1991). The logistic regression model requires far fewer assumptions, even when the assumptions required for discriminate analysis are satisfied, logistic regression still performs better (Norusis 1992). For dichotomous dependent variables, logistic regression is the analogue to multiple regression for continuous response variables (Tarling and Perry 1985, p. 223).

The logistic regression procedure lends itself to the selection of predictor variables through stepwise procedures. This procedure systematically adds one predictor variable at a time starting with the best single predictor and concluding with a model that includes all of the predictors. The objective is to find the optimum combination of variables that explain the greatest amount of variation in the dependent variable. All of the models were developed using the following criterion variables.

Criterion Variables for Developing Prediction Models

- Rearrest
- Probation revocation
- Drug use as measured by urine testing
- Absconding

- Probation violators as measured by motions to revoke probation being filed

The following sets of analysis are conducted. First, documentation is provided on how well the current Wisconsin instrument classifies adult felony offenders in Texas. This is done to assess how well the current risk assessment instrument as applied in Texas correctly sorts offenders into differential supervision levels. Second, a series of analyses is conducted to determine the predictive accuracy of models constructed using the Wisconsin Risk and Need variables. Since the practical application of any newly developed model is a major consideration, it is important to establish the baseline of performance for the most efficient and predictive instrument in which all other prediction models would need to improve upon. Third, a series of analyses is conducted to determine the predictive accuracy of models constructed using a combination of the Cohort variables. The goal is to develop an improved prediction instrument.

The predictive accuracy of the models is assessed using three indicators. First, the results of the classification table that indicate the percent of cases that are correctly classified are the primary output of the logistical regression analysis. Second, from information contained in the classification table, the RIOC (relative improvement over chance) is computed. To reiterate, RIOC measures the extent to which a risk instrument improves over chance guesses. The RIOC consists of computing the base rate (number of offenders in the population) and the selection rate (number of offenders selected by the prediction model). Utilizing that input information, three models are computed. Outcome Chance (OC)) is a measure of the predicted models performance. A Random Model is computed using a function of the base rate and selection rate to generate a purely random mode. The maximum model computes the maximum values that could occur in the models cells using the selection rate and base rate. Theoretically, this is the best the model could perform. The RIOC = (OC – RC) / (MC-RC). The RIOC is an important indicator of the quality of a risk instrument, given that prediction tools are more or less accurate as a function of the size of the base rate and selection rate (Harris 1994, p. 160). A final statistic that is generated for each prediction model is the Receiver Operating Characteristic (ROC) curve. The ROC curve is recently available in SPSS version 10.0, and is a useful way to evaluate the performance of classification schemes in which dichotomous outcome variables are used (SPSS 1999). A ROC curve demonstrates the tradeoff between sensitivity and specificity of classification schemes. Any increase in sensitivity will be accompanied by a decrease in specificity. Sensitivity is a plot of the true positive rate and specificity a plot of the false positive rate. The accuracy of a test depends on how well the test separates two distinct groups.

With the ROC curve statistics, an area of 1 represents a perfect test and an area of .5 represents a useless test.

Expected results and benefits

The felony cohort data set consists of a large sample of offenders that will allow for the exploration of the following research issues.

- Incorporate dynamic risk predictors into overall risk assessment
- Determine the extent to which dynamic *need* variables are robust predictor variables
- Construct prediction models using multiple criterion variables
- Develop objective dynamic variables that predict criminogenic needs
- Study the degree to which instruments could be made more efficient by minimizing multicollinearity

The data are unique because they include all of the Wisconsin risk and need items, static and dynamic variables are available, and numerous objective dynamic predictor variables from other instruments are also available. The follow-up data obtained allow for models to be developed using multiple criterion measures collected over a three-year follow-up period.

The fact that the constructed models incorporate static and dynamic variables to predict criminal behavior is expected to lead to more accurate prediction. This is the major limitation of current third generation instruments. In the third generation instruments, dynamic variables are primarily included to establish supervision officer's workload and target areas for intervention. Also, the development of objective dynamic indicators should increase the validity and reliability of the assessment process. With the increased validity and reliability, it is easier to accurately measure changes in offender behavior over time regardless of the level of training or expertise of the supervising officer.

Chapter 4: Descriptive Analysis of the Felony Cohort

The purpose of this chapter is to describe the types of offenders placed on probation in Texas in 1993. Descriptive data are presented on the entire data set. This is done to determine the generalizablity of the information, establish the base rate for each dependent variable, and identify problematic data. Problematic data are cases or variables where considerable data are missing or extensive coding errors exist.

This chapter also serves to assess variables to be included in prediction models in later chapters and how the variables should be coded. Variables with categories that are very small (e.g., < 5%) are recoded and/or collapsed into other categories to allow for the accurate computing of statistics and avoid categories with less than 50 cases present.

Descriptive data are presented on the three years of follow-up information. Each potential criterion variable is reviewed to determine the extent to which follow-up information on all offenders in the sample was collected over the entire three-year period. Offenders for whom follow-up information is incomplete are deleted from the sample. A chi-square test between the excluded offenders and the remaining sample on demographic and computed risk and need variables is conducted. The purpose is to determine whether the offenders with incomplete follow-up information are statistically different from the entire sample to ensure that the exclusion of the offender records does not skew further analysis. The final step is to determine the base rate for each dependent variable.

Felony Cohort Data – Independent Variables

The first set of felony cohort data described are the potential independent variables. The independent variables fall into two primary categories – static predictor variables and dynamic predictor variables. For each of the variables, descriptive information is provided as it was initially collected, the extent of missing data is summarized, and recodings conducted are detailed. In the description of the data, all Wisconsin Risk and Need variables are identified by including either (risk) or (need) after the description of the data element.

Static Predictor Variables Following is a list of static independent variables available in the felony cohort dataset. Numerous variations of some traditional predictor variables (e.g., prior criminal history) are detailed. These variations are proposed to address both the validity and reliability of assessment items. Listed in table 4.1 are descriptive data on the continuous static independent variables. Table 4.2 contains frequency distributions of the static categorical independent variables. Static items are those variables that do not change over time. These are the items most extensively used in current risk prediction assessments.

Table 4.1: Descriptive data on the continuous static cohort variables

Description of Data Item	Variable Name	Descriptive Statistics				
		N	Min.	Max.	Mean	Std. Deviation
Age at intake	Age_in	3405	16	82	29.28	10.34
Age at first adjudication of guilt (Risk)	R43	3402	9	82	24.62	9.23
Prior felony arrest-property	Farrprop	3405	0	17	.24	.81
Prior felony arrest-persons	Farrpers	3405	0	7	.11	.45
Prior felony arrest-drug	Farrdrug	3404	0	16	.12	.55
Prior felony arrest-alcohol	Farralc	3405	0	8	>.001	.28
Prior felony arrest-other	Farroth	3403	0	6	>.001	.21
Total prior felony arrests	Farrtlt	3404	0	29	.54	1.38
Prior felony conviction-prop.	Fconprop	3405	0	8	.11	.47
Prior felony conviction-persons	Fconpers	3404	0	3	>.001	.18
Prior felony conviction-drug	Fcondrug	3405	0	5	>.001	.27
Prior felony conviction-alcohol	Fconalc	3404	0	3	>.001	.20
Prior felony conviction-other						
Total prior felony convictions	Fconoth	3404	0	2	>.001	>.001
	Fcontlt	3404	0	10	.22	.69
Total prior misd. Arrests						
Total prior misd. Convictions	Marrtlt	3404	0	25	1.37	2.17
	Mcontlt	3404	0	25	.91	1.55
Prior Probation/ Parole Supervision (Risk)	R44	3405	0	18	.75	1.25
Prior Adult Felony Probation/ Parole Supervision	Felprobs	3405	0	11	.23	.73
Prior Probation/ Parole Revocations (Risk)	R45	3404	0	7	.14	.48
Prior Adult Felony Probation/ Parole Revocations	Felprobr	3405	0	5	<.001	.28
Prior Felony Adjudications of Guilt (Risk)	R46	3405	0	14	.27	.79

Table 4.2: Descriptive data on the categorical static cohort variables

Data Item	Variable Name	Descriptive Statistics Percent	Frequency	Re-coding Conducted
Demographics				
Race/Ethnicity	Ethnic			Re-code Other as Anglo
1 Anglo		37.1	1262	Other = 1.4%
2 African-American		28.6	973	
3 Hispanic		34.4	1170	
Gender	Gender			
1 Male		77.9	2654	
2 Female		22.1	751	
Marital Status at Intake	M_Status			Recoded Remarried as
1 Married/common law		31.0	1055	married;recoded
2 Not married		22.9	780	widowed separated and
3 Never married		46.1	1568	divorced as 'not
Missing			2	married'
Living Arrangement at Intake	Living			
1 With spouse / children		33.3	1137	
2 With mother and/or father		33.1	1114	
3 Alone		8.9	298	
4 Other		24.2	812	
Missing			44	
Current Offense Information				
Current Offense (Intake Offense)	Off_type			
1 Violent		11.8	402	
2 Property		38.4	1306	
3 Drug/Alcohol		30.6	1041	
4 Other		19.3	656	
Offense Level	Of_level			
1 First Degree		15.6	531	
2 Second Degree		31.1	1059	
3 Third Degree		52.3	1815	
Type of Intake	In_type			Recoded all types of
1 Direct sentence		97.3	3314	'returns' into one
2 Return of any kind		2.7	91	category

Table 4.2: Descriptive data on the categorical static cohort variables -- continued

Data Item	Variable Name	Descriptive Statistics Percent	Frequency	Re-coding Option
Current Offense Info. Cont.				
Weapon Used in Current Offense	Weapon			
1 Yes		10.5	358	
0 No		89.5	3047	
Weapon type	Wpntype			Recoded knife and other weapons into 'other'
0 No weapon		89.5	3048	
1 Firearm		6.5	220	
2 Other weapon		4.0	137	
Legal Status at Offense	Legstat			
1 Under supervision		10.2	349	Recoded to two categories: grouped types of supervision
0 Not under supervision		89.2	3056	
Criminal History				
Criminal Gang Affiliation	Gang			
1 Yes		3.7	126	
0 No known affiliation		96.3	3278	
Missing			1	
Prior Juvenile Record	Juvenile			
1 Yes		13.3	452	
0 No known record		86.7	2953	
Adjudications for burglary, theft, auto theft or robbery (Risk)	R47			Recoded No to 0
1 Yes		43.4	1428	
0 No		56.6	1927	
Adjudication for worthless checks or forgery (Risk)	R48			Recoded No to 0
1 Yes		12.2	414	
0 No		87.8	2991	

Table 4.2: Descriptive data on the categorical static cohort variables -- continued

Data Item	Variable Name	Descriptive Statistics		Re-coding Option
		Percent	Frequency	
Criminal History Continued				
Adjudication for assaultive offense within last 5 years (Risk)	R49			Recoded No to 0
1 Yes		19.3	657	
0 No		80.7	2748	
Prior non-probation sentences to prison	Incid			Due to small numbers, this continuous variable was collapsed.
0 None		94.8	3225	
1 One or more		5.2	178	
Missing			2	
Prior non-probation sentences to jail	Injail			Due to small numbers, this continuous variable was collapsed.
0 None		76.2	2593	
1 One or more		23.9	812	
Prior non-probation sentences to Texas Youth Commission	Intyc			Due to small numbers, this continuous variable was collapsed.
0 None		97.6	3319	
1 One or more		2.4	83	
Missing			3	

Dynamic Predictor Variables Following is a list of dynamic independent variables that are tested to determine their ability to predict future criminal behavior. Dynamic variables are criminogenic need items that change over time and in theory can be impacted by appropriate placement in programming. Summarized are dynamic variables used in the Wisconsin Risk and Need Assessment and those that are new and currently untested. All variables with an "R" or "N" as the first letter of the variable name are Wisconsin Risk and Need assessment items respectively. The new and untested variables consist of a series of objective indicators that may provide predictive information. For example, there are numerous variables for determining the extent of substance abuse. Alcohol and drug usage problems are commonly used predictors, whereas, use by injection and crack cocaine use are new indicators. Table 4.3 contains descriptive data on the continuous dynamic variables. Table 4.4 contains frequency distributions for the categorical dynamic variables.

Table 4.3: Descriptive data on the continuous dynamic cohort variables

Description of Data Item	Variable Name	Descriptive Statistics				
		N	Min.	Max.	Mean	Std. Deviation
Address Changes in last 12 months (Risk)	R38	3405	0	30	.88	1.44
Percent Employed in last 12 months (Risk)	R39	2922	0	100	59.20	34.97
Highest Grade Completed	H_grade	3405	0	19	10.44	2.62
Alcoholic drinks consumed in one setting over past year	alcamt	2119	1	36	5.88	3.90

Table 4.4: Descriptive data on the categorical dynamic cohort variables

Data Item	Variable Name	Descriptive Statistics		Re-coding Option
		Percent	Frequency	
Education and Employment				
High School Diploma or GED	Hs_ged			Recoded No to 0
1 Yes		49.5	1684	
0 No		50.5	1721	
Missing			1	
Employment Status at Intake	Employed			
1 Full-time		41.4	1411	
2 Part-time/seasonal		12.2	414	
3 Student/homemaker		12.9	440	
4 Not employed		33.5	1140	
Educational (Needs)	N50			
0 High School or above skill		39.4	1341	
1 Adequate skills		27.9	951	
2 Low skills		25.7	876	
3 Minimal skills		7.0	237	
Employment (Needs)	N51			
0 Satisfactory over a year		20.6	702	
1 Secure		35.7	1216	
2 Unsatisfactory		35.7	1216	
3 Unemployed		8.0	271	
Financial Management (Needs)	N52			
0 Self-sufficient long term		6.4	219	
1 No current difficulties		23.1	787	
2 Minor difficulties		55.8	1899	
3 Severe difficulties		14.7	500	

Table 4.4: Descriptive data on the categorical dynamic cohort variables continued

Data Item	Variable Name	Descriptive Statistics		Re-coding Option
		Percent	Frequency	
Alcohol and Drug Use				Data was collected to obtain no regular use, monthly use, weekly use, three to four times a week, and daily. All of the drug items were collapsed into a dichotomous variable due to limited reported use.
Cocaine/Crack over past 12 mo.	Crack			
0 No use		83.6	2844	
1 Use		16.4	558	
Missing			3	
THC over past 12 mo.	Marj			
0 No use		75.6	2572	
1 Use		24.4	830	
Missing			3	
Any other drug over past 12 mo.	Any_drug			
0 No use		93.7	3186	Data was collected on opiates, sedatives, amphetamines and inhalants. Due to very small occurrences they were collapsed into any other drug use.
1 Use		6.3	216	
Missing			3	
Drug by injection over 12 mo.	Inject			
1 Yes		4.6	158	
0 No		95.4	3245	
Missing			2	
Alcohol over past 12 mo.	Alc12mo			
1 No regular use		38.4	1308	Daily use and use 3 to 4 times weekly were grouped into more than weekly use.
2 Monthly use		15.8	539	
3 Weekly use		28.7	977	
4 More than weekly use		17.0	579	
Missing			2	
Alcohol Usage (Needs)	N56			
1 No abuse		47.3	1611	
2 Occasional abuse		32.7	1115	
3 Frequent abuse		19.9	679	
Drug Usage (Needs)	N57			
1 No abuse		60.1	2047	
2 Occasional abuse		24.0	816	
3 Frequent abuse		15.9	542	

Table 4.4: Descriptive data on the categorical dynamic cohort variables continued

Data Item	Variable Name	Descriptive Statistics		Re-coding Option
		Percent	Frequency	
Alcohol and Drug Use Cont.				
Influence Alcohol/Drugs at time of current offense	Inflad			
1 Yes		38.2	1301	
0 No known record		61.8	2104	
Number of times offender in substance abuse outpatient	Adtmtout			
0 None		89.2	3031	
1 One or more		10.8	368	
Missing			6	
Number of times offender in substance abuse inpatient	Adtmtin			
0 None		90.9	3086	
1 One or more		9.1	310	
Missing			9	
Alcohol Usage to Criminal Activity (Risk)	R40			
1 Unrelated		53.1	1807	
2 Probable relationship		22.1	752	
3 Definite relationship		24.8	846	
Drug Usage to Criminal Activity (Risk)	R41			
1 Unrelated		55.1	1876	
2 Probable relationship		17.4	591	
3 Definite relationship		27.5	938	

Table 4.4: Descriptive data on the categorical dynamic cohort variables continued

Data Item	Variable Name	Descriptive Statistics		Re-coding Option
		Percent	Frequency	
Interpersonal				
Attitude (Risk)	R42			
1 Motivated to change		50.4	1715	
2 Somewhat motivated		38.3	1304	
3 Not motivated		11.3	386	
Marital/Family Relations (Need)	N53			
0 Exceptionally strong		14.9	508	
1 Relatively stable		36.5	1243	
2 Some disorganization		36.7	1248	
3 Major disorganization		11.9	406	
Companions	N54			
0 Good support		10.4	353	
1 No adverse relations		27.0	921	
2 Occasional negative		45.3	1541	
3 Completely negative		17.3	590	
Mental and Physical Health				
Emotional Stability (Needs)	N55			
0 Exceptionally well		20.3	690	
1 No instability		56.5	1924	
2 Limited functioning		19.2	655	
3 Prohibit functioning		4.0	136	
Mental Ability (Needs)	N58			
1 Able to function		93.5	3183	
2 Need for assistance		5.9	200	
3 Severely limited		.6	22	
Health (Needs)	N59			
1 Sound physical health		89.0	3029	
2 Handicap or illness		8.4	285	
3 Serious handicap		2.7	91	

Table 4.4: Descriptive data on the categorical dynamic cohort variables continued

Data Item	Variable Name	Descriptive Statistics		Re-coding Option
		Percent	Frequency	
Other Needs				
Sexual Behavior (Needs)	N60			
1 No apparent dysfunction		94.2	3204	
2 Minor problems		2.6	90	
3 Severe problems		3.2	109	
Missing			2	
PO's Impression (Needs)	N61			
0 Well adjusted		3.2	108	
1 No needs		5.6	191	
2 Moderate Needs		57.9	1969	
3 High Needs		33.3	1133	
Missing			4	

Felony Cohort Data – Dependent Variables

The second series of variables described are the potential dependent variables. Most of the dependent variables are dichotomous and coded 0 for "no" and 1 for "yes" indicating the occurrence of an event. The outcomes assess the offender's status at the end of the three-year follow-up period.

The first set of dependant variables address how well offenders performed on probation. After the three-year follow-up period, the majority of the cohort was not terminated from probation (62.2%), meaning a probation officer was still actively supervising these offenders. A very small percent died (1.1%). To quantify how well the offenders did under supervision, a variety of outcome measures are computed. The most inclusive outcome is *whether a motion to revoke (MTR) probation* was filed on the offender. This outcome is the most inclusive of the negative outcomes because a MTR may or may not result in a revocation and can be filed for technical probation violations or for a subsequent arrest. This category would include offenders who remained under supervision and those who were removed from supervision and sentenced to incarceration. Technical probation violations include all the other reasons an offender may be revoked from probation other than committing a new crime. Some of these include failure to pay supervision fees, positive urinalysis test, or failure to attend court mandated counseling or other programming. Base rates are calculated for each type of outcome where information is available (e.g., MTR filed and not revoked, revoked for technical violations, revoked for subsequent arrest).

Another determination of how well offenders did under supervision is whether they *abscond* from supervision. Absconding means that the probation officer loses track and contact with an offender for a period of over three months. If an offender absconded during the three-year follow-up period, they are coded as an absconder.

A common indicator of probation success is *recidivism*. Recidivism is a generic term that refers to some form of subsequent unsuccessful behavior. In this study, subsequent arrest for a Class B misdemeanor or higher within the three-year follow-up period in used. This is considered to be the closest approximation of criminal behavior (Maltz 1984). An arrest for a Class B misdemeanor involves no judicial discretion, unlike other traditionally used measures of recidivism. For example, each court has the discretion to decide who gets revoked and who does not and for which violations: offenders who are rearrested may or may not be revoked from supervision.

An outcome indicating the offenders who were successful over the three years period is also computed. This positive probation outcome includes offenders who were under direct supervision for all three years, did not have an MTR filed, were not revoked, were not arrested, and did not abscond. Also included in the successful category are offenders who received an early discharged from probation or whose term expired without any of the previous mentioned occurrences. An expired term of probation means that the sentence is served in full and the offender is no longer under the supervision of the criminal justice system. Note that success as defined in this study does not necessarily mean a successful completion of probation as some felons have more that a three-year probation term. The following table reports the base rates of each of the outcomes in these areas.

Table 4.5: Descriptive data on the probation outcome cohort dependant variables after three years

Data Item	Variable Name	Descriptive Statistics	
		Percent	Frequency
MTR Filed	Mtrfiled	43.5	1481
MTR Filed & Not Revoked	Mtr_nrk	25.0	850
Revoked	Revoked	23.3	794
Revoked for Technical	Rk_tech	12.5	427
Revoked with Re-arrest	Rk_arr	10.8	367
Absconded	Abscond	14.3	480
Arrest	Arrest	26.8	913
Arrest and not revoked	Arr_nrk	16.0	546
Successful Offenders	Dclean	38.1	1295

The dependent variables with the highest base rates are whether an MTR was filed, rearrest, revocation, and successful offenders. Logistical regression models work best when the predicted outcome occurs at a rate close to 50%. This is because the regression model attempts to predict the behaviors of the offenders with the targeted outcome. A large number of failed or successful offenders yield more powerful prediction models. Since MTR is a temporary status, it would not be appropriate to include in the prediction models being developed in later chapters.

The successful offenders, rearrest, and revocation indicators are appropriate as robust criterion variables that are used in later chapters for modeling.

Summary

The purpose of this chapter is to scrutinize the information collected as part of the felony cohort project by describing the types of offenders placed on probation in Texas in 1993 and how well they did on probation after three years. All of the data obtained in the initial data set from the Texas Department of Criminal Justice, Community Justice Assistance Division is summarized and assessed.

A total of 68 predictor variables out of the initial cohort are usable. The main area in which information is lost is with the categorical variables. With many variables, small occurrence rates of specific categories mean they need to be collapsed into more useable data. Much of the detail collected on type and frequency of drug use has to be collapsed into dichotomous variables due to limited reported use.

Of all of the potential dependant variables collected, only three are used to construct the prediction models in Chapter Six. They are successful probation, rearrest and probation revocation. The other outcome measures either have very low base rates of occurrence (e.g., absconders) or are inappropriate to use in the prediction models (e.g., urinalysis testing rate).

Chapter 5: Testing the Validity and Reliability of Predictor Variables

The purpose of this chapter is to test the validity and reliability of the predictor variables. The validity of the variables is tested to determine which variables are correlated with each criterion variable. The reliability analysis is conducted to assess multicollinearity issues between the independent variables and to determine if composite indicators can be established.

The independent variables are analyzed in this section in subject area groupings. To varying degrees, all of the groupings of factors analyzed in this section are correlated with criminal offending (e.g., Gendreau 1996, Champion 1994, Morgan 1994, Petersilia 1998). The major groupings are prior criminal history, education problems, employment problems and substance abuse problems. Data elements that measure these groupings have proven predictive in past studies (e.g., Andrews 1996, Herrnstein 1995, Wilson and Herrnstein 1985).

One other goal of this research is to develop objective measures of criminogenic need factors that produce more valid and reliable predictors. There are policy and practical reasons for exploring more objective measures. One practical issue concerns simply the type of data that can be collected by probation officers in a valid and reliable manner. For example, instead of questions that ask if offenders have a “substance abuse problem”, questions are proposed that document the specific amount or type of use (e.g., intravenous drug use, use of crack weekly). Of policy relevance is that there are many situations in which funding to probation departments is provided at a differential rate for high, medium and low risk offenders. A higher rate of payment is allocated for the high risk offenders, less to the medium risk and the least to the low risk. If risk assessment criteria are not objective, verification that offender cases are classified accurately becomes difficult.

In the previous chapter independent variables are refined based on completeness and usability. Variables with the majority of the information missing are removed from the data set. Also, some of the categorical variables are collapsed into fewer categories, and others are turned into dummy variables due to small percentages in some of the categories to allow for accurate statistical analysis.

Predictive Validity

The purpose of this section is to determine the predictive validity of the independent variables with the three outcome variables established in chapter four (i.e., arrest, revocation and successful probation status). This is necessary to further streamline the variables that are used in the later prediction models. After the initial data reduction discussed in Chapter Four, there are 67 variables. If the prediction model is to be practical for the field of probation to administer, narrower scope of variables is desirable.

The following independent variables are not significantly correlated with any of the dependent variables and are not included in future prediction models. The exceptions are the three Wisconsin risk and need items which are included in the analysis that tests the predictive power of Wisconsin Risk and Need instrument conducted in Chapter Six despite their lack of correlation.

Table 5.1: Independent variables that are not correlated with revocation, arrest or successful probation.

Variable Question	Source
Demographic	
Race/ Ethnicity	Cohort Test Variable
Substance Abuse	
Number of times the probationer participated in alcohol or drug abuse outpatient treatment.	Cohort Test Variable
Other Needs	
Health Need	Wisconsin Need Item
Sexual Behavior	Wisconsin Need Item
Criminal History	
Was a weapon involved in the commission of the offense?	Cohort Test Variable
Type of weapon used in the commission of the offense?	Cohort Test Variable
Prior adult felony arrests for alcohol offenses	Cohort Test Variable
Prior adult felony arrests for other offenses	Cohort Test Variable
Prior adult felony convictions for offenses against a person	Cohort Test Variable
Prior adult felony convictions for drug offenses	Cohort Test Variable
Prior adult felony convictions for alcohol offenses	Cohort Test Variable
Prior adult felony convictions for other offenses	Cohort Test Variable
Adult or juvenile adjudication for worthless check or forgery	Wisconsin Risk Item

The remainder of this section reports the Pearson (r) statistic for the remaining independent variables. The static and dynamic factors are reported separately. The correlations are only reported for those factors that are significant. A coefficient will only be reported in a table if it is significant at the .01 level. Again, the dependent variables are coded “0” for not arrested or not revoked and “1” for arrested or revoked. Successful is coded “0” for not successful and “1” for successful as defined in chapter four.

Static Independent Variable Correlations Table 5.2 reports the correlations between the static independent variables and the outcome variables of revocation, arrest and success on probation. Static variables are the “classic” predictor items that appear in many of the early prediction assessment instruments. The static variables are categorized as demographic variables, current offense information, criminal history, and alcohol and drug use associated with commission of current offense.

Of the demographic static variables, gender, the age indicators and marital status are significant for all three of the dependent variables. The highest correlation is between age at first adjudication of guilt and successful probation status (r =.17). Age at first adjudication of guilt is a Wisconsin Risk variable.

None of the variables relating to current offense are significant for any of the dependent variables. Legal status at time of offense is the only current offense variable correlated with arrest.

Many of the criminal history variables are correlated with all three dependent variables. Ten of the cohort test variables are correlated with all three dependent variables, as are most of the Wisconsin Risk variables. The highest correlations are between prior juvenile record and revocation (r =.18), and total prior misdemeanor arrests and arrest (r =.11). Both predictors are cohort test variables.

Table 5.2: Correlations between static cohort variables and revocation, arrest and success

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Demographics				
Gender 1 Male 2 Female	Gender	-.11	-.08	.14
Age at intake	Age_in	-.15	-.13	.17
Age at first adjudication of guilt (Risk)	R43	-.19	-.17	.21
Marital Status at Intake 1 Married/common law 2 Not married 3 Never married	M_Status	.14	.06	-.13
Living Arrangement at Intake 1 With spouse / children 2 With mother and/or father 3 Alone 4 Other	Living	.13	----	-.13

Table 5.2: Correlations between static cohort variables and revocation, arrest and success -- continued

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Current Offense Information				
Current Offense (Intake Offense) 1 Violent 2 Property 3 Drug/Alcohol 4 Other	Off_type	-.07	----	----
Offense Level 1 First Degree 2 Second Degree 3 Third Degree	Of_level	-.08	----	.11
Type of Intake 1 Direct sentence 2 Return of any kind	In_type	.08	----	----
Legal Status at Offense 1 Under supervision 0 Not under supervision	Legstat	----	.08	-.08
Criminal History				
Criminal Gang Affiliation 1 Yes 0 No known affiliation	Gang	.10	.10	-.09
Prior Juvenile Record 1 Yes 0 No known record	Juvenile	.18	.13	-.14
Adjudications for burglary, theft, auto theft or robbery (Risk) 1 Yes 0 No	R47	.13	.09	-.12
Adjudication for assaultive offense within last 5 years (Risk) 1 Yes 0 No	R49	.06	.05	----
Prior non-probation sentences to prison 0 None 1 One or more	Incid	.06	----	-.07
Prior non-probation sentences to jail 0 None 1 One or more	Injail	.14	.05	-.09

Table 5.2: Correlations between static cohort variables and revocation, arrest and success -- continued

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Criminal History Continued				
Prior non-probation sentences to Texas Youth Commission 0 None 1 One or more	Intyc	.12	.07	-.07
Prior felony arrest-property	Farrprop	.08	.08	-.08
Prior felony arrest-persons	Farrpers	.05	----	----
Prior felony arrest-drug	Farrdrug	----	.05	-.05
Total prior felony arrests	Farrtlt	.08	.08	-.08
Prior felony conviction-prop.	Fconprop	----	----	-.07
Total prior felony convictions	Fcontlt	----	----	-.06
Total prior misd. Arrests	Marrtlt	.10	.11	-.09
Total prior misd. Convictions	Mcontlt	.09	.08	-.07
Prior Probation/ Parole Sup. (Risk)	R44	.07	.09	-.09
Prior Adult Fel, Prob./ Parole Sup.	Felprobs	.05	.04	-.07
Prior Prob./ Parole Rev.(Risk)	R45	.10	.05	-.08
Prior Adult Fel. Prob. /Parole Rev.	Felprobr	.06	----	-.06
Prior Felony Adjud.of Guilt (Risk)	R46	.08	.05	-.09

Dynamic Independent Variable Correlations Table 5.3 reports the correlations between the dynamic independent variables and the dependant variables: revocation, arrest and success on probation. The dynamic variables are assessments of education and employment status, alcohol and drug use, interpersonal needs, mental and physical health, and other needs (e.g., probation officers impression of the offender's need level).

All of the education and employment variables are significant across all dependent variables except for highest grade completed. The two highest correlations are between the cohort test variables for employment status at intake and revocation (r = .20), and the Wisconsin Need variable for employment need and successful probation status (r = -.21).

Most of the alcohol and drug use indicators are significant across all the dependent variables. For the substance abuse indicators, both of the Wisconsin Risk variables for alcohol and drug usage are significant across all dependent variables. The cohort test variable for under the influence at the time of the current offense is also significant. The highest correlation is between the Wisconsin Risk variable for drug usage and successful probation status (r = -.18).

The cohort test items measuring cocaine/crack, marijuana and alcohol use over the past 12 months are significant across all dependent variables. Both Wisconsin Need items for alcohol and drug usage problem are significant. The highest correlations are between drug usage problem and revocation (r = .21) and successful probation status (r = -.22).

The remaining dynamic variables tested are Wisconsin Risk and Need indicators. All of the variables are significant across all the dependent variables. The two highest correlations are between the variable the types of companions the offender has and revocation (r = .21), and the probation officers impression of the offender's need level and revocation (r = .18), and successful probation status (r = -.18).

Table 5.3: Correlations between dynamic cohort variables and revocation, arrest and success

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Education and Employment				
High School Diploma or GED 1 Yes 0 No Missing	Hs_ged	-.12	-.09	.11
Highest Grade Completed	H_grade	-.05	----	.06
Educational (Needs) 0 High School or above skill 1 Adequate skills 2 Low skills 3 Minimal skills	N50	.13	.10	-.14
Employment Status at Intake 1 Full-time 2 Part-time/seasonal 3 Student/homemaker 4 Not employed	Employed	.20	.09	-.16
Employment (Needs) 0 Satisfactory over a year 1 Secure 2 Unsatisfactory 3 Unemployed	N51	.19	.13	-.21
Percent employed in last 12 months (Risk)	R39	.18	-.11	-.19
Financial Management (Needs) 0 Self-sufficient long term 1 No current difficulties 2 Minor difficulties 3 Severe difficulties	N52	.12	.08	-.15

Table 5.3: Correlations between dynamic cohort variables and revocation, arrest and success -- continued

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Alcohol and Drug Use Indicators				
Influence Alc/Drg at current offense 1 Yes 0 No known record	Inflad	.08	.05	-.11
Number of times offender in substance abuse inpatient 0 None 1 One or more	Adtmtin	.05	----	-.07
Alcohol Usage to Criminal Activity 1 Unrelated 2 Probable relationship 3 Definite relationship	R40	.07	.07	-.11
Drug Usage to Criminal Activity 1 Unrelated 2 Probable relationship 3 Definite relationship	R41	.17	.08	-.18
Cocaine/Crack over past 12 mo. 0 No use 1 Use	Crack	.17	.07	-.17
THC over past 12 mo. 0 No use 1 Use	Marj	.13	.09	-.18
Any other drug over past 12 mo. 0 No use 1 Use	Any_drug	.06	----	-.05
Drug by injection over 12 mo. 1 Yes 0 No	Inject	.08	----	-.08
Alcohol over past 12 mo. 1 No regular use 2 Monthly use 3 Weekly use 4 More than weekly use	Alc12mo	.12	.06	-.14
Alcohol Usage (Needs) 1 No abuse 2 Occassional abuse 3 Frequent abuse	N56	.11	.08	-.14
Drug Usage (Needs) 1 No abuse 2 Occasional abuse 3 Frequent abuse	N57	.21	.09	-.22

Table 5.3: Correlations between dynamic cohort variables and revocation, arrest and success -- continued

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Interpersonal				
Attitude (Risk)	R42	.12	.09	-11
1 Motivated to change				
2 Somewhat motivated				
3 Not motivated				
Marital/Family Relations (Need)	N53	.12	.08	-.11
0 Exceptionally strong				
1 Relatively stable				
2 Some disorganization				
3 Major disorganization				
Companions	N54	.21	.14	-.17
0 Good support				
1 No adverse relations				
2 Occasional negative				
3 Completely negative				
Mental and Physical Health				
Emotional Stability (Needs)	N55	.09	.10	-.10
0 Exceptionally well				
1 No instability				
2 Limited functioning				
3 Prohibit functioning				
Mental Ability (Needs)	N58	.05	.07	-.06
1 Able to function				
2 Need for assistance				
3 Severely limited				
Other Needs				
PO's Impression (Needs)	N61	.18	.11	-.18
0 Well adjusted				
1 No needs				
2 Moderate Needs				
3 High Needs				
Address Changes in last 12 months (Risk)	R38	.10	.06	-.12

Reliability Analysis

In this section, the correlations between variables in each of the major groupings (e.g., substance abuse, current offense information, prior criminal history, education, and employment) are analyzed using reliability analysis.

This is done for two primary reasons. Reliability analysis is a procedure for evaluating multiple-item indexes. Specifically, it provides information about the relationships among individual items in an index. The statistics that are computed are the inter-item correlations, covariance, and the alpha statistic (alpha = α). Alpha is a test of internal consistency based on the average inter-item correlations. Descriptive statistics are reviewed for each variable, the index, and the index if a variable is deleted.

An essential feature of the reliability coefficient is that as a proportion of variance, it should in theory range between 0 and 1 (Nichols 1999). However, negative alpha values can be generated for a variety of reasons, which lead to inappropriate interpretations. The alpha will be negative whenever the average covariance among the items is negative. A common problem is when an index consists of items that are worded or coded in opposite directions. The data set in this study does consist of a variety of variables worded in different directions. Therefore, as a first step, all variables within an index are recoded to go in the same direction.

Reliability analysis also reports the standardized item alpha, which represents the scale with variables converted to z-scores (i.e., equal weighting of items). In cases in which the standardized item alpha is higher than the alpha, variables are converted to z-scores and the analysis is rerun. This is done to determine how the scale performs with z-score variables removed one item at a time.

There are three questions that impact how reliability analysis is conducted and interpreted. They are listed below and each addressed separately.

- What is a "good" alpha?
- How does the number of variables in an index affect reliability?
- Should composite scores be a sum or an average?

What is a good alpha? If alpha is too low, the items have very little in common. An alpha of .30 is very low (Nunnally and Bernstein 1994, and Yaffee 1998). As a general rule of thumb, an alpha of .70 or higher reflects items that can be combined into a reliable composite score. To increase the potential utility of any risk prediction instrument that may be developed, small distinctions of alpha scores above .70 are taken into account if the number of variables in the composite scale is reduced without losing accuracy.

How do the numbers of variables in a scale affect reliability? Coefficient alpha reflects the number of items and their average correlation (Nunnally and Bernstein 1994). Therefore, "a major way to make tests more reliable is to make them longer" (Nunnally and Bernstein 1994, p. 262). This is because test reliability is a direct function of the average correlation among items for a given number of items. There is little guidance in the field of criminal justice prediction on exactly how to balance the number of items with a strong alpha score for reliability in creating composite scores. The rule that is followed in this research is to try to achieve the fewest number of variables that yield the highest alpha score.

Should composite scores be a sum value or an average? Most literature on reliability analysis consists of developing scales where the questions are all on the same scale, for example a Likert Scale item, which is a multiple-choice question that surveys opinions. In those cases, the scale is generally summed to get a total test score. This data set contains categorical, continuous and dichotomous variables. Though in most cases, the variables are converted to z scores, there is still a question of how best to combine the variables into an index that is most appropriate. Little guidance exists in the literature. As a practical standard, averaging the variables together optimizes the data. For example, in an instant where there are four variables in the composites and there only exists data for three, the average can be computed using the data from the three existing variables. Solely for that reason, the average of the variables is used.

Reliability Analysis Results

In the data set there are five theoretical blocks of variables. They are education variables, employment variables, substance abuse indicators, current offense information, and prior criminal history. Reliability analysis is conducted in each of the five areas to assess whether an index scale can be developed. Variables assessing education, employment, substance abuse and criminal history are grouped into index predictors. Following is a detailed summary of the analysis conducted in each area. Appendix C contains all of the output produced during this analysis.

Education Scale Three variables are included in this index. High school diploma or GED is a dichotomous variable with 1 coded as yes. Highest grade completed is a continuous variable, and whether a person has educational needs is categorical. Education need is recoded to go in the same theoretical direction as the other two variables. As the number gets higher, the likelihood of success increases.

In the first series of analysis, the three-scale alpha is .5985, and the standardized alpha is .8421. Therefore, prior to proceeding, all of the variables are converted to z-scores.

Once the variables are converted to z-scores, all three variables merit inclusion in the index. For all three factors, the alpha is lower if any one of them is deleted. As a result, taking the average of the three z score converted variables creates a new variable.

Employment Scale Four variables are included in this index. Three of the variables are categorical: employment status at intake, employment need, and financial management need. Percent of time employed during the last twelve months is a continuous variable. The three categorical variables are recoded to go in the same direction as the other variable, so as the score increases the likelihood of success increases.

In the first series of analyses, the four-item alpha is .1262, and the standardized alpha is .8173. Therefore, prior to proceeding, all of the variables are converted to z-scores.

Once the variables are converted to z-scores, the financial management variable, if deleted, increases the alpha score from .8184 to a .8617. The reliability analysis is rerun including only the three employment variables. All three variables merit inclusion in the scale. For all three factors, the alpha is lower if any one of them is deleted. As a result, taking the average of the three z score converted variables creates a new variables.

Substance Abuse Scale There is a total of eleven variables that measure alcohol and drug use. All of the variables are coded in the same direction meaning that as a score gets higher it reflects behavior more likely to predict future criminal activity. The data are analyzed in two groups: those items dealing with criminal history and those addressing criminogenic need. This is done to determine if any sub-grouping of substance abuse might be appropriate.

For the criminal history area, there are four variables. Two of the variables are dichotomous. They are whether the offender was under the influence of alcohol or drugs at the time of the current offense and whether the offender was in substance inpatient treatment. The other two variables are categorical and assess the relationship that either alcohol or drug usage has to the offender's criminal activity.

The four-scale alpha of .5376 is slightly lower than the standardized alpha (α = .5976), so all of the variables are converted to z-scores to assess inter-item dynamics. If prior inpatient treatment and drug use related to crime are deleted from the scale, the alpha increases to the .6100 area. Since this is lower than the .70 standard, this is not a reliable index.

There are seven variables that address criminogenic substance abuse need. Four of the variables are dichotomous. They are whether the offender had used either cocaine/crack, THC or any other drug over the past 12 months and whether the offender had used by injection over the past 12 months. Alcohol use over the past 12 months is also assessed, but the variable is categorical ranging from no regular use to more than weekly use. The final two variables are categorical variables that rate the offender's alcohol or drug usage abuse level ranging from no abuse to frequent abuse.

The seven-item scale of .6741 is slightly lower than the standardized alpha ($\alpha = .7318$), so all of the variables are converted to z-scores to assess inter-item dynamics. For all seven factors, the alpha is lower if any of the variables are deleted. The seven variable scale falls above the .70 standard, and are all valid to include in a scale model.

The last test is to determine how all of the substance abuse variables perform together. The alpha for all eleven substance abuse variables as z scores is .8141. This alpha is higher than just the dynamic factors. Also, none of the variables, if deleted, would raise the alpha any higher. From this section, the average of all of the substance abuse variables is used.

Current Offense There are three static variables that reflect information regarding the offense for which the offender was placed on probation. These are the current offense (a categorical coding including violent, property, drug and other offenses), offense level (first, second or third degree), and legal status at offense (either under supervision or not). There is no reliability for these factors making a composite scale. Both the alpha (α = .0776) and standardized alpha (α = .1434) are extremely low.

Criminal History The most extensive series of variables address offenders' criminal history. In sum, there are 21 adult and juvenile criminal history variables. The reader is referred to table 4.1 for more detailed information on these variables. The variables are either dichotomous (with yes indicating involvement) or continuous (e.g., number of prior felony arrests). All of the variables are converted to z scores to standardize the comparisons across the wide span of factors.

Since large numbers of variables are likely to yield a reliable scale, it is expected that all 21 variables will have a high alpha, which is indeed the case. The standardized alpha for including all the criminal history variables is .8768. However, it is not practical or efficient to include all the items. Exploratory analysis is conducted to find the most efficient set of variables with the best reliability. This means various computations of variable groupings are tested to try and find the highest alpha score. First, there are three major logical groups that the variables fall into: juvenile history variables, those used historically on the Wisconsin Risk and Need instrument, and new test variables introduced as part of the cohort data collection initiative.

The three juvenile variables: criminal gang affiliation, prior juvenile record, and prior sentence to the Texas Youth Commission result in a standardized alpha of .4821. This demonstrates weak reliability. A separate composite score for these factors is not appropriate.

There are five Wisconsin Risk Assessment variables: adjudications for property and assaultive offenses, prior felony adjudications of guilt, and prior probation supervision and revocations. The standardized alpha for those five variables is .5886. Adjudication for property and assault weaken the alpha the most, but not to the extent that a reliability of at least .70 is reached if eliminated.

There are twelve cohort criminal history test variables. These variables are constructed to be more objective and use terminology consistent with Texas law. For example, instead of adjudication, the terms arrest and conviction are used. Also, probation supervision and revocations are limited to prior adult felonies, excluding juvenile and misdemeanor supervision. Also tested are variables to collect non-probated prison and jail sentences. These twelve variables produce the highest alpha in the criminal history section (α = .8846). Significant findings particularly since there are 12 as opposed to 21 variables. The item-total statistics demonstrate that removal of four of the variables would increase the alpha. Those are non-probation incarcerations in jail, prior felony arrests for personal crimes and drug crimes, and misdemeanor convictions. With those variables deleted, the eight-item scale yields an alpha of .9117. Though a very high alpha, the item-total statistics indicate that if misdemeanor arrests is removed the alpha would increase further (α = .9360). The criminal history index is now limited to the seven variables: number of felony arrests for property crime, total number of prior felony arrests, number of felony convictions for property crimes, total number of prior felony convictions, prior non-probated sentence to prison, number of prior adult felony probation supervisions, and number of prior adult felony probation revocations. The item-total statistics do not indicate that the removal of any variables would further increase the alpha score. These seven variables represent factors in a new composite score representing prior criminal history.

A final series of analyses is conducted to test how a purely statistically deduced model would perform and determine what factors would be included. All of the criminal history variables are entered and then removed in an item-by-item step-wise manner until only variables that do not lower the alpha are removed.

The statistically deduced composite scale contains all of the variables included in the final cohort test variable model and one Wisconsin Risk Assessment item (i.e., prior felony adjudication of guilt) for a total of eight factors. The alpha is .9442, slightly higher than the one produced by the seven cohort test variables ($\alpha = .9360$). Since the change is only slight, the composite scale used for criminal history will remain with the index developed based on logical groups and statistical deduction. The average of the seven z score converted cohort test variables make up the criminal history index. The remaining criminal history factors are included individually in the prediction models.

Composite Score Correlations In the previous section, four indexes are created and composite scores are computed. The purpose of this section is to further analyze the computed composite scores and test their predictive validity by correlating them with the three dependent variables (i.e., arrest, revocation and successful probation status).

All of the computed composite scales are correlated significantly ($p < .001$) with all the dependent variables. Since all of the variables are z scores, the mean of both computed variables is zero. Table 5.4 presents the variable names and the correlations for each of the index variables with the dependent variables.

Table 5.4: Correlations between composite variables and revocation, arrest and success

Data Item	Variable Name	Pearson Correlation Significant at .01 level (2-tailed)		
		Revocation	Arrest	Success
Education Composites	ZED_CAVG	-.112	-.083	.121
Employment Composites	ZEMP_AVG	-.226	-.131	.228
Substance Abuse All Factors	ZSA_AAVG	.194	.104	-.227
Criminal History	ZCH_AVG	.067	.052	-.083

Summary of Data Reduction

This section provides a summary of the variables that are used to construct the prediction models. Addressed are variables that are removed from further analysis and new index variables that are created. In sum, a total of fifteen variables are removed from further study, and four indexes are established.

Table 5.5 provides a summary of the fifteen variables that are removed from further study. The demographic, substance abuse, and other need factors are removed because they are not significantly correlated with any of the outcome measures. Most of the criminal history variables also are removed because they are not correlated with any of the outcome measures.

Table 5.5: Variables removed from further analysis since they are either not correlated with revocation, arrest or successful probation or they did not get placed in an index

Variable Question	Source
Demographic	
Ethnicity	Cohort Test Variable
Substance Abuse	
Number of times the probationer participated in alcohol or drug abuse outpatient treatment.	Cohort Test Variable
Other Needs	
Health Need	Wisconsin Need Item
Sexual Behavior	Wisconsin Need Item
Criminal History	
Was a weapon involved in the commission of the offense?	Cohort Test Variable
Type of weapon used in the commission of the offense?	Cohort Test Variable
Prior adult felony arrests for alcohol offenses	Cohort Test Variable
Prior adult felony arrests for other offenses	Cohort Test Variable
Prior felony arrest-persons	Cohort Test Variable
Prior felony arrest-drug	Cohort Test Variable
Prior adult felony convictions for offenses against a person	Cohort Test Variable
Prior adult felony convictions for drug offenses	Cohort Test Variable
Prior adult felony convictions for alcohol offenses	Cohort Test Variable
Prior adult felony convictions for other offenses	Cohort Test Variable
Total prior misd. Arrests	Cohort Test Variable
Total prior misd. Convictions	Cohort Test Variable
Prior non-probation sentences to jail	Cohort Test Variable
Adult or juvenile adjudication for worthless check or forgery	Wisconsin Risk Item

Table 5.6 contains the list of variables that remain in the data set as separate indicators. All of the factors are correlated with at least one of the dependent variables and have theoretical importance as a predictor of future criminal behavior. Though some of these variables are significantly correlated

with each other, they cannot be grouped into a reliable index scale using an alpha of .70 as the criterion for a reliable scale.

Table 5.6: Variables that will remain in data set as separate indicators

Data Item	Variable Name
Demographics	
Gender	Gender
Age at intake	Age_in
Age at first adjudication of guilt	R43
Marital Status at Intake	M_Status
Living Arrangement at Intake	Living
Current Offense Information	
Current Offense (Intake Offense)	Off_type
Offense Level	Of_level
Type of Intake	In_type
Legal Status at Offense	Legstat
Interpersonal and Other Needs	
Attitude	R42
Marital/Family Relations	N53
Companions	N54
Emotional Stability	N55
Mental Ability	N58
PO's Impression	N61
Address Changes in last 12 months	R38
Financial Management	N52
Juvenile Criminal History	
Criminal Gang Affiliation	Gang
Prior Juvenile Record	Juvenile
Prior non-probation sentences to Texas Youth Commission	Intyc
Wisconsin Criminal History	
Adjudications for burglary, theft, auto theft or robbery	R47
Adjudication for assaultive offense within last 5 years	R49
Prior Probation/ Parole Sup.	R44
Prior Prob./ Parole Rev.	R45
Prior Felony Adjudication of Guilt	R46

Table 5.7 presents a summary of the index scales created and the original variables that make up each index. All of the index scales are converted to z scores. The average of each index is provided. The criminal history index is the most reliable scale (α = .9360), and the substance abuse scales are the least reliable (α = .8141, α = .7318) but still within the .70 standard.

Table 5.7: Index variables created and the original variables that compose the index

Data Item	Variable Name
Education Index α = .8421	
Composite Score Average	***ZED_CAVG***
High School Diploma or GED	Hs_ged
Highest Grade Completed	H_grade
Educational (Needs)	N50
Employment Index α = .8617	
Composite Score Average	***ZEMP_AVG***
Employment Status at Intake	Employed
Employment (Needs)	N51
Percent employed in last 12 months (Risk)	R39

Table 5.7: Index variables created and the original variables that compose the index -- continued

Data Item	Variable Name
Criminal History Index α = .9360	
Composite Score Average	***ZCH_AVG***
Prior non-probation sentences to prison	Incid
Prior felony arrest-property	Farrprop
Total prior felony arrests	Farrtlt
Prior felony conviction-prop.	Fconprop
Total prior felony convictions	Fcontlt
Prior Adult Fel.Prob./ Parole Sup.	Felprobs
Prior Adult Fel. Prob. /Parole Rev.	Felprobr
Substance Abuse Index – All Factors α = .8141	
Composite Score Average	***ZSA_AAVG***
Influence Alcohol/Drugs at time of current offense	Inflad
Number of times offender in substance abuse inpatient	Adtmtin
Alcohol Usage to Criminal Activity (Risk)	R40
Drug Usage to Criminal Activity (Risk)	R41
Cocaine/Crack over past 12 mos.	Crack
THC over past 12 mos.	Marj
Any other drug over past 12 mos.	Any_drug
Drug by injection over 12 mos.	Inject
Alcohol over past 12 mos.	Alc12mo
Alcohol Usage (Needs)	N56
Drug Usage (Needs)	N57

Chapter 6: The Construction of Rearrest, Revocation and Successful Probation Prediction Models

The purpose of this chapter is three-part. First, documentation is provided on how well the current Wisconsin instrument is classifying adult felony offenders in Texas. Second, a series of analyses is conducted to determine the predictive accuracy of models constructed using the Wisconsin Risk and Need variables. Since the practical application of any newly developed model is a major consideration, it is important to establish the baseline of performance for the most efficient and predictive instrument in which all other prediction models would need to improve upon. Third, a series of analyses is conducted to determine the predictive accuracy of models constructed using a combination of the Cohort variables. The goal is to develop an improved prediction instrument. The Wisconsin instrument serves as the baseline to improve upon. Percent of cases classified correctly, the computed relative improvement over chance (RIOC) and the Receiver Operating Characteristic (ROC) curve are used to determine improvement. Each of these is described in detail as they appear in this chapter.

In the section testing how well the current Wisconsin instrument is classifying adult felons in Texas, the performance of the risk and need scales are assessed separately. The current Texas adult probation weighting scheme for the Wisconsin instrument is used. The performance of the model in separating offenders into appropriate classifications is assessed for each of the three outcome variables (i.e., subsequent arrest, probation revocation and successful probation).

In the section where logistic regression models are constructed, comparisons are made between models using only the Wisconsin variables, and other models generated from the set of predictor variables contained in the felony cohort data. New models are constructed to compete against the Wisconsin model by including dynamic predictor variables that are correlates of criminal conduct as established in chapter five. Specifically, new indicators of assessing substance abuse history, education level, employment patterns, criminal history and companions included in the felony cohort project are tested to determine their potency. The new indicators are unique in that they are more objective than the traditional indicators. Additionally, the four index scales computed in chapter five are tested. These index scales include a combination of variables in the theoretical groupings of education, employment, substance abuse and criminal history.

How well is the current Wisconsin instrument classifying offenders?

The first test of the Wisconsin instrument is to determine how well it is currently grouping Texas adult felony probationers into distinct classification groups. Texas is not unlike most other states in how it classifies its offender population using the Wisconsin instrument. Offenders are placed into maximum, medium and minimum risk and need categories. The cutoff scores currently in use for each category are maximum = 15 +, medium = 8 – 14, and minimum = 0 – 7. The offender's risk score is the driving factor that determines the amount of supervision required.

Applying the variable weighting scheme used in Texas, each offender in the cohort data set is assigned a risk and need score (see Appendix D). The cases are then assigned a maximum, medium or minimum risk and need classification. The resulting tables are crosstabulations between risk and need grouping and each outcome variable (i.e., arrest, revocation and successful probation). The chi-square and the Pearson (r) statistics are reported for each crosstabulation.

Classification Results Tables 6.1 and 6.2 contain the result of a crosstabulation for risk and need category with rearrest respectively. For both the risk and need groupings, offenders with a maximum score are rearrested at a higher rate than those with minimum scores. The classification groups are significantly different for both of the risk grouping (x^2 = 116.917, p<.001; r = -.184, p<.001) and need grouping (x^2 = 83.748, p<.000; r = -.152, p < .000).

Similar results are present when the risk and need groupings are crosstabulated with probation revocation. Tables 6.3 and 6.4 contains those results which again are significant across the risk (x^2 182.049, p<.001; r = -.231,p<.001) and need (x^2 148.821, p<.001; r = -.209, p<.001) groupings.

Differences between the classification levels are distinguishable when testing for successful probation completion. Tables 6.5 and 6.6 present those results. The highest correlation for any of the crosstabulations is present for the risk grouping with successful probation (x^2 = 22.5689, p <.001; r = .255, p<.001). The need grouping is also significant (x^2 = 160.265, p<.001; r = .216, p<.001).

Table 6.1: Results of a crosstabulation between risk grouping and rearrest

RISKGP Risk Grouped * ARREST Arrested Ever Over 3 Years Crosstabulation

			ARREST Arrested Ever Over 3 Years		
			0 Not Arrested	1 Arrested	Total
RISKGP Risk Grouped	1 maximum 15+	Count	580	342	922
		% within RISKGP Risk Grouped	62.9%	37.1%	100.0%
	2 medium 8-14	Count	1000	398	1398
		% within RISKGP Risk Grouped	71.5%	28.5%	100.0%
	3 minimum 0-7	Count	912	173	1085
		% within RISKGP Risk Grouped	84.1%	15.9%	100.0%
Total		Count	2492	913	3405
		% within RISKGP Risk Grouped	73.2%	26.8%	100.0%

Table 6.2: Results of a cross tabulation between need grouping and rearrest

NEEDGP Need Grouped * ARREST Arrested Ever Over 3 Years Crosstabulation

			ARREST Arrested Ever Over 3 Years		
			0 Not Arrested	1 Arrested	Total
NEEDGP Need Grouped	1 maximum 30+	Count	184	150	334
		% within NEEDGP Need Grouped	55.1%	44.9%	100.0%
	2 medium 15-29	Count	959	393	1352
		% within NEEDGP Need Grouped	70.9%	29.1%	100.0%
	3 minimum 14 and below	Count	1349	370	1719
		% within NEEDGP Need Grouped	78.5%	21.5%	100.0%
Total		Count	2492	913	3405
		% within NEEDGP Need Grouped	73.2%	26.8%	100.0%

Table 6.3: Results of a cross tabulation between risk grouping and revocation

RISKGP Risk Grouped * REVOKED Revoked Ever Over 3 years Crosstabulation

			REVOKED Revoked Ever Over 3 years		
			0 No	1 Yes	Total
RISKGP Risk Grouped	1 maximum 15+	Count	586	336	922
		% within RISKGP Risk Grouped	63.6%	36.4%	100.0%
	2 medium 8-14	Count	1059	339	1398
		% within RISKGP Risk Grouped	75.8%	24.2%	100.0%
	3 minimum 0-7	Count	966	119	1085
		% within RISKGP Risk Grouped	89.0%	11.0%	100.0%
Total		Count	2611	794	3405
		% within RISKGP Risk Grouped	76.7%	23.3%	100.0%

Table 6.4: Results of a cross tabulation between need grouping and revocation

NEEDGP Need Grouped * REVOKED Revoked Ever Over 3 years Crosstabulation

			REVOKED Revoked Ever Over 3 years		
			0 No	1 Yes	Total
NEEDGP Need Grouped	1 maximum 30+	Count	191	143	334
		% within NEEDGP Need Grouped	57.2%	42.8%	100.0%
	2 medium 15-29	Count	968	384	1352
		% within NEEDGP Need Grouped	71.6%	28.4%	100.0%
	3 minimum 14 and below	Count	1452	267	1719
		% within NEEDGP Need Grouped	84.5%	15.5%	100.0%
Total		Count	2611	794	3405
		% within NEEDGP Need Grouped	76.7%	23.3%	100.0%

Table 6.5: Results of a cross tabulation between risk grouping and successful probation

RISKGP Risk Grouped * DCLEAN_T Clean or Term d_clean = 1 or termreas = 1 (FILTER) Crosstabulation

			DCLEAN_T Clean or Term d_clean = 1 or termreas = 1 (FILTER)		
			0 Not Selected	1 Selected	Total
RISKGP Risk Grouped	1 maximum 15+	Count	714	208	922
		% within RISKGP Risk Grouped	77.4%	22.6%	100.0%
	2 medium 8-14	Count	903	494	1397
		% within RISKGP Risk Grouped	64.6%	35.4%	100.0%
	3 minimum 0-7	Count	491	593	1084
		% within RISKGP Risk Grouped	45.3%	54.7%	100.0%
Total		Count	2108	1295	3403
		% within RISKGP Risk Grouped	61.9%	38.1%	100.0%

Table 6.6: Results of a cross tabulation between need grouping and successful probation

NEEDGP Need Grouped * DCLEAN_T Clean or Term d_clean = 1 or termreas = 1 (FILTER) Crosstabulation

			DCLEAN_T Clean or Term d_clean = 1 or termreas = 1 (FILTER)		
			0 Not Selected	1 Selected	Total
NEEDGP Need Grouped	1 maximum 30+	Count	275	59	334
		% within NEEDGP Need Grouped	82.3%	17.7%	100.0%
	2 medium 15-29	Count	937	414	1351
		% within NEEDGP Need Grouped	69.4%	30.6%	100.0%
	3 minimum 14 and below	Count	896	822	1718
		% within NEEDGP Need Grouped	52.2%	47.8%	100.0%
Total		Count	2108	1295	3403
		% within NEEDGP Need Grouped	61.9%	38.1%	100.0%

The purpose of classification is to categorize offenders into discrete groups to which specific rules apply in order to supervise and manage the populations more effectively. Even though a higher percent of offenders with a maximum score are rearrested and revoked than at the minimum level, the percent that receive a maximum supervision level and are not arrested or revoked is high (63%). The high number of *false positives* is likely to lead to the over supervision and /or over treatment of offenders. False positives are cases that are predicted to engage in the targeted outcome (e.g., rearrest) and do not.

Using the outcome of rearrest, two new risk classification schemes are presented to attempt to better distinguish between discrete groups of offenders. By reviewing the distribution of the risk scores it was determined that 70% of offenders with a risk score of 12 are not rearrested after three years. Currently a score of 15 classifies an offender as maximum risk. Table 6.7 presents results of new classification table with two groups, minimum (a score of 0 – 12) and maximum (a score of greater than 12). A total of 64% of the population is categorized as minimum risk for reoffending, but still 64% of the maximum group does not offend.

Table 6.7: Results of a cross tabulation between new two-category risk grouping and rearrest

Risk Classification with 2 Groups * Arrested Ever Over 3 Years Crosstabulation

			Arrested Ever Over 3 Years		
			Not Arrested	Arrested	Total
Risk Classification with 2 Groups	0 - 12 minumum	Count	1705	457	2162
		% within Risk Classification with 2 Groups	78.9%	21.1%	100.0%
	> 12 maximum	Count	787	456	1243
		% within Risk Classification with 2 Groups	63.3%	36.7%	100.0%
Total		Count	2492	913	3405
		% within Risk Classification with 2 Groups	73.2%	26.8%	100.0%

Table 6.8 presents the results of a new three-category classification. The cut-offs are made to further distinguish the maximum group on the previous Table 6.7. An analysis of the distribution of risk scores indicate that 60% of offenders with risk scores as high a 27 are not rearrested. That group of offenders is categorized as the medium classification group (risk score of 13 – 27). The maximum group consists of offenders with risk scores greater than 27. A risk score of 33 is the highest reported in this sample.

Table 6.8: Results of a cross tabulation between new three-category risk grouping and rearrest

Risk Classificaiton with 3 Groups * Arrested Ever Over 3 Years Crosstabulation

			Arrested Ever Over 3 Years		Total
			Not Arrested	Arrested	
Risk Classificaiton with 3 Groups	0 - 12 minimum	Count	1705	457	2162
		% within Risk Classificaiton with 3 Groups	78.9%	21.1%	100.0%
	0 - 27 medium	Count	768	434	1202
		% within Risk Classificaiton with 3 Groups	63.9%	36.1%	100.0%
	> 27 maximum	Count	19	22	41
		% within Risk Classificaiton with 3 Groups	46.3%	53.7%	100.0%
Total		Count	2492	913	3405
		% within Risk Classificaiton with 3 Groups	73.2%	26.8%	100.0%

This classification does minimize the false positives, but the maximum classification group only includes 1.2% of the sample. Neither of the new classification schemes is any better than the current method used in Texas. Though still significant, the Pearson r statistic for both of the new classification schemes (two groups $r = .169$, $p >.001$; three groups $r = .174$, $p >.001$) is lower than the current method detailed in Table 6.1 ($r = -.184$, $p<.001$). It would seem that the problem is with the prediction instrument itself. The tests of the prediction accuracy of the Wisconsin Risk model in the following section supports this initial analysis.

Predictive Accuracy of the Wisconsin Risk and Need Variable Models and the Cohort Test Variable Models

The purpose of this section is to test the predictive accuracy of the Wisconsin Risk and Needs Instrument and construct competing prediction models using the Cohort test variables. Prediction models are developed for each of the three outcome measures (i.e., arrest, revocation and probation success). This section is divided into three parts; data analysis methods, analysis results, and summary and discussion.

Data Analysis

Binary Logistic Regression The appropriate statistical analysis for the data set available is binary logistic regression (Tarling and Perry 1985, p. 223). The statistical package of SPSS is used. In SPSS, continuous and categorical variables are entered as covariates, but then the categorical can be specified and treated as separate dichotomous indicators. Two different forms of variable entry are used. The most common used is to “enter” all desired independent variables into the model specification for inclusion. For exploratory models, "forward selection conditional entry" is used with and inclusion entry of .05. "Forward selection conditional" is a stepwise selection method with entry testing based on the significance of the score statistic, and removal testing based on the probability of a likelihood-ratio statistic based on conditional parameter estimates (SPSS 1999).

The classification tables produced as part of the SPSS output use a cutoff score of .50 as a default setting. This implies that every case has a 50 percent chance of being considered in the model. In a perfect research situation where the base rate is 50 percent, this would be the appropriate cutoff score to use. There are many situations when it is more appropriate to use a different prediction rule. "As the proportion of cases in the two categories deviates farther from the even split, you will probably want to change your prediction cutoff value" (Bachman and Paternoster 1997, p. 584). The base failure/success rates in the current dataset are 27% for arrest, 23% for revocation and 38% for successful probation. Therefore, .50 is not an appropriate classification table cutoff score.

Bachman and Paternoster (1997, p. 584 - 585) specify how to obtain the appropriate cutoff point. The appropriate cutoff score is determined by running a frequency distribution of each regression model's predicted probabilities. The appropriate cutoff is the predicted probability score that corresponds with the cumulative frequency that in turn corresponds with the model's base successful rate. For example, with the arrest outcome variable in the current dataset, 73% of the offenders are not rearrested after the three-year period. The appropriate classification table cutoff score of .33 is the predicted probability that corresponds with the 73rd percentile in the cumulative frequency. Stated plainly, for arrest models, offenders in the study dataset have approximately a one-in-three chance of being selected into the prediction model. The cutoff score for the revocation models is.32 and for successful probation is .41. The cutoff scores only affect the prediction model classification tables.

Model Construction A series of prediction models is constructed for each outcome variable using the same methodology for determining the inclusion of independent variables. The following is a summary of the methods that are followed for specifying each series of prediction models.

- Model 1 includes all of the Wisconsin risk variables.
- Model 2 includes all of the Wisconsin need variables.
- Model 3 includes all of the Wisconsin risk and need variables.
- Model 4 includes the Wisconsin risk and need variables using the stepwise forward conditional method of entry. The model with the most cases classified correctly is reported.

- Model 5 includes the Wisconsin risk and need variables that were most predictive in previous models. More than one test may be conducted at this stage, but only the best final model is reported.
- Model 6 includes the most inclusive set of variables. All of the Wisconsin risk and need variables, and all of the other Cohort dataset test variables that are correlated with each respective outcome variable (see Chapter 5) are included.
- Model 7 includes the same set of variables as Model 6, however, the variables are entered into the model using the stepwise forward conditional method of entry. The model with the most cases classified correctly is reported.
- Model 8 includes the four index scales computed in Chapter Five and all the remaining Cohort dataset test variables that are correlated with each respective outcome variables and not included as part of the index scale.
- Model 9 includes the same set of variables as Model 8, however, the variables are entered into the model using the stepwise forward conditional method of entry. The model with the most cases classified correctly is reported.

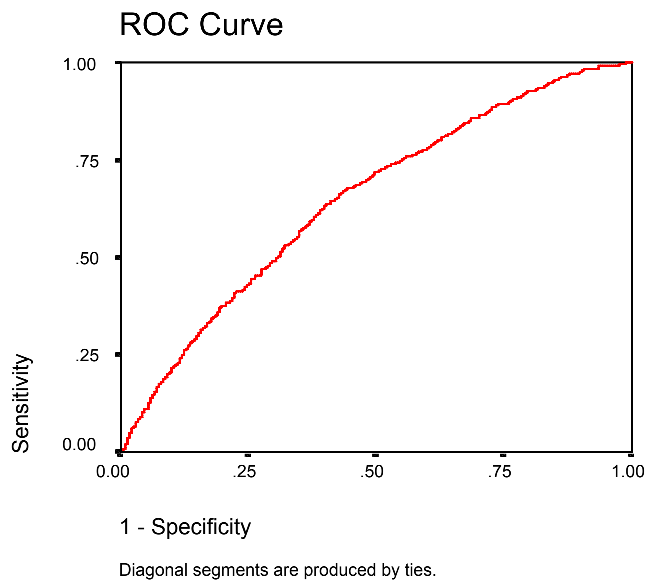
- Model 10 includes a selection of variables that were most predictive in previous models. More than one model is tested at this stage, but only the best final model is reported.

Classification Table A classification table contains the results of the observed versus predicted cases. From that table the percent of true positives, false positives, true negatives and false negatives is calculated for each prediction model. Also reported for each prediction model is the percent that the model predicted correctly.

True positives are cases that are predicted to engage in targeted outcome (e.g., arrest) and do. These are correct positive predictions. True negatives are cases that are predicted to not engage in the targeted outcome (e.g., not arrested) and do not. These are correct negative predictions. False positives are cases that are predicted to engage in the targeted outcome and they do not. These are incorrect predictions that would lead to over supervision or over treatment of offenders. A policy concern with too many false positives is operational efficiency. False negatives are cases that are predicted to not engage in the targeted outcome and they do. In the case of arrest, these offenders would be predicted to not be a risk of rearrest, and they are rearrested. The policy concern with too many false negatives is public safety.

Relative Improvement Over Chance (RIOC) and the Receiver Operating Characteristic (ROC) Curve are additional measures included for each prediction model. The following graph is an illustration of ROC curve full results. The results are from the ROC curve analysis for the Wisconsin risk variables with arrest. Two variables must be specified in the statistical model. The *test variable* is the saved predicted probabilities from the regression model for which one wants to know the ROC curve. The *state variable* is the dependent variable for the prediction model being studied. Also, the *state value* (e.g., 1, 2, 0) must be entered to specify which value denotes an occurrence of predicted outcome. For the ROC curves run on this dataset, a 1 was entered to indicate arrested, revoked, or successful probation. In the ROC graph, the specificity of the curve is the false positive rate and the sensitivity is the true positive rate. The area under the curve is .649, which is considered poor (Tape 2001). The following is the rough interpretation of values associated with the area under the curve .90 – 1 = excellent; .80 - .90 = good; .70 - .80 = fair; .60 - .70 poor; and .50 - .60 = fail (Tape 2001).

Figure 6.1 Example of ROC Curve output from SPSS



Area Under the Curve

Test Result Variable(s): P_RISK Pred. Prob. Risk Only

Area
.649

The test result variable(s): P_RISK Pred. Prob. Risk Only has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

Analysis Results

Two major types of prediction models are tested in this section for each of the dependent variables (i.e., arrest, revocation, probation success). The first set of prediction models use only the Wisconsin variables to construct the most predictive model. The second set of prediction models uses all of the variables in the Cohort dataset test variables. A total of 30 prediction models are presented.

The Wisconsin models are tested to determine if the prediction applications that are currently being used in many states could be improved by modifying or streamlining existing Wisconsin risk and need variables into a more predictive instrument.

The Wisconsin prediction models are considered the models to improve upon in the second set of prediction models. For each outcome variable, five prediction models using the Wisconsin variables are constructed to set the baseline. The first prediction model includes the risk variables only (Model 1). These are the items for which the existing instrument is created. The second model is constructed primarily as a basis of comparison using only the need items (Model 2). The third model is constructed using all of the risk and need variables (Model 3) to establish a baseline of performance for the most inclusive prediction model. For each outcome variable, the final two prediction models are the result of attempts to develop more predictive and streamlined prediction models using the Wisconsin variables. For all of the outcome variables, the result of the stepwise forward conditional analysis is reported (Model 4). The final prediction model reported is one that is constructed by manually selecting the variables from previous prediction models that explain most of the variables and constructing a prediction model that includes the fewest number of variables without losing predictability (Model 5).

As a recap, the cohort data set includes all of the Wisconsin risk and need variables and 33 other test variables designed to compete against the Wisconsin variables as better prediction indicators. Appendix E provides a summary list of these variables with their respective code names. The first prediction model that is constructed for each of the outcome variables includes all of the cohort dataset variables that are significantly correlated with the outcome variables as documented in Chapter Five (Model 6). These prediction models include from 44 to 52 total variables. This model represents the most inclusive baseline for which subsequent models are compared. The composite index variables, which were created in Chapter Five using reliability analysis, are analyzed separately. This is necessary so that the variables, which make up the composite index variables, can be tested independently from the indexes. The second prediction model is a stepwise forward conditional model which includes all of the variables from the first baseline prediction model (Model 7).

The final three prediction models include similar items as in the previous prediction models, except that the index variables are included. The individual variables that are included in the composite indexes are removed from the prediction models. The first prediction model includes all of the index variables and the remaining variables that are correlated with the dependent variable and not included in index variables (Model 8). To conclude the analysis, stepwise forward conditional models are constructed (Model 9) as well as the results of the cohort and index variables reduces to the smallest number of variables the yield the most predictive model (Model 10).

Arrest Models Table 6.9 presents the summary findings of the prediction models constructed using rearrest within three years as the predicted outcome. Appendix F contains the complete classification tables for each model and the statistics for all the variables included in each prediction model.

Table 6. 9: Predictive Accuracy of Various Rearrest Prediction Models with the cutoff at .33

Model Type	True Positive %	True Positive N	False Positive %	False Positive N	True Negative %	True Negative N	False Negative %	False Negative N	RIOC	ROC	Percent Correct
1 Risk	11	306	16	463	57	1669	16	481	17.6	64.9	67.7
2 Need	9	318	15	503	58	1986	17	593	16.3	63.1	67.8
3 R&N	12	355	17	487	56	1642	15	431	20.8	66.8	68.5
4 FWD	11	331	17	504	56	1625	16	455	17.3	64.3	67.1
5 Best	10	330	15	502	59	1998	17	582	17.7	64.2	68.1
6 Cohort	12	362	16	463	57	1658	14	421	23.1	69.1	69.6
7 Ch Fwd	11	326	15	429	58	1692	16	457	22.2	66.5	69.5
8 Ch & Idx	12	392	15	505	58	1979	15	516	23.1	67.5	69.9
9Ch Idx Frd	11	369	15	515	58	1969	16	539	10.4	66.0	68.9
10Ch & Idx Best	11	374	14	482	59	2005	16	537	23.1	66.7	70.0

The five rearrest prediction models utilizing the Wisconsin variables perform equally poorly. The Cox and Snell R square, which is a pseudo R^2 measure, are all low (i.e., <.09). The percent classified correctly by the models never reaches 70%. The models perform particularly poorly with identifying true positives. The highest percent of true positives identified by any model is 12%. The percent of false negatives identified by the prediction models is also troubling. As many as 580 offenders (17%) are identified as not likely to offend, and do. The RIOC is also never greater than a 20% improvement over chance and the ROC curves all fall into the poor range. From a policy standpoint, using the six Wisconsin variables identified in the stepwise forward conditional model (Model 4), will provide about the same information from the standpoint of predicting future arrest as completing all of the risk and need variables. The six variables are age at first adjudication of guilt, employment stability, marital and family relations, emotional stability, alcohol usage problems and mental ability.

Similarly, none of the cohort test models performed considerably better than the Wisconsin variable models. The most inclusive model (Model 6), which includes all of the cohort dataset variables correlated with rearrest, still only identified 12% of the true positives and failed to identify 14% of arrested offenders. From an efficiency perspective, 16% of the offenders are falsely categorized as recidivist. The RIOC is slightly improved over the Wisconsin models, but the ROC curves all fall within the poor range. Any gains obtained from the new prediction models fail to justify a policy shift away from the Wisconsin based prediction models.

Models 5 and 10 contain the prediction variables that consistently explain the highest percent of the variance in the models. These models are highlighted to provide the reader with additional information regarding the variable that at the least, performed better than the other indicators. Table 6.10 provides a summary of those variables. Of particular note is that the composite variable for education is not statistically selected for inclusion, nor is any other education variable. Numerous need variables dealing with the offenders' psychological ability are strong explanatory variables. Again, more specific information on these individual variables is included in Appendix E.

Table 6.10: Summary of predictor variables that explained the most variance in the rearrest prediction models

Model 5: Best Wisconsin Variables	Model 10: Best of All Variables
	Gender (Gender)
	Marital Status (M_Status)
	Age at Intake (Age_in)
	Legal Status (Legstat)
	Gang Affiliation (Gang)
	Prior Juvenile Record (Juvenile)
Age at 1st adjudication (R43)	(R43)
Prior Prob. / Parole Sup. (R44)	(R44)
Prior Felony Adj. Guilt (R46)	(R46)
Adjudications for burglary, theft, auto theft or robbery (R47)	
	Adjudi. for worthless checks or forgery (R48)
	Financial Management (N52)
Marital/Family Relations (N53)	
Emotional Stability (N55)	(N55)
Mental Ability (N58)	(N58)
Health (N59)	
	Criminal History Composite (ZCH_AVG)
	Employment Composite (ZEMP_AVG)
	Substance Abuse Composite (SA_AAVG)

In sum, the prediction models constructed to predict the likelihood of future arrest all perform poorly. Additional analysis was conducted to remove outliers to determine if any notable changes in the models' performance would occur. It did not. With the robust cohort sample of over 3,400 cases, small changes in the dataset made no difference in the overall results.

Revocation Models Table 6.11 presents the summary findings of the prediction models constructed using probation revocation within three years as the predicted outcome. Appendix F contains the complete classification tables for each model and the statistics for all the variables included in the final prediction model.

The five Wisconsin based models constructed to predict likelihood of revocation within three years perform somewhat better than the models constructed to predict rearrest. The Cox and Snell R square are slightly higher, with the best model at .15. The percent of true positives is still low, less that 15% being identified, but the false negatives are a lower percent (11% – 13%). The overall percent classified correctly is in the mid 70% range and the ROC curves all fall into the fair range (70s). To determine the best Wisconsin based prediction model requires a variety of statistical and policy relevant decisions. Overall, the prediction model that is constructed using all of the Wisconsin risk and need variables (Model 3) yields the most offenders classified correctly (74.2%), the highest RIOC (29.4), and the highest ROC curve (73.6).

Table 6.11: Predictive Accuracy of Various Revocation Prediction Models with the cutoff at .32

Model Type	True Positive %	True Positive N	False Positive %	False Positive N	True Negative %	True Negative N	False Negative %	False Negative N	RIOC	ROC	Percent Correct
1 Risk	11	307	14	394	63	1832	13	386	26.3	71.2	73.3
2 Need	10	341	14	479	63	2128	13	452	23.8	70.4	72.6
3 R&N	12	356	14	415	62	1808	11	336	29.4	73.6	74.2
4 FWD	11	332	14	416	62	1807	12	360	27.1	72.3	73.4
5 Best	12	345	14	411	62	1814	12	347	28.7	72.2	74.0
6 Cohort	14	391	13	374	63	1809	10	283	36.0	77.9	77.0
7 Ch Fwd	13	378	14	389	63	1794	10	296	33.6	76.4	76.0
8 Ch & Idx	13	418	13	446	63	2122	11	362	32.7	75.7	75.9
9Ch Idx Frd	12	404	14	458	63	2110	11	376	30.7	74.9	75.1
10Ch & Idx Best	12	405	14	472	63	2098	11	375	29.8	74.9	74.7

Unlike with the test cohort arrest outcome models, the cohort revocation models do improve over the Wisconsin models, though the gain is still statistically marginal. The prediction model that performs the best is the cohort stepwise forward conditional model (Model 7). The model consists of 12 variables. There are 8 cohort variables: gender, marital status, living arrangement, age at intake, whether the offender has a high school diploma or GED, employment status at intake, whether the offender has used crack cocaine, whether the offender has a juvenile record, 2 Wisconsin risk variables: offender's attitude and prior adjudications for a property crime, and 2 Wisconsin need variables: drug usage problem and the probation officer's impression. Model 6 performs slightly better than Model 7, but it includes over 50 predictor variables.

Models 5 and 10 contain the prediction variables that consistently explained the highest percent of the variance in the models. These variables are highlighted to provide additional information regarding the variable that, at the least, performed better than the other indicators. Table 6.12 provides a summary of those variables. Of particular note is that the composite variable for criminal history is not included. Included are more variables that relate to offenders' prior probation experience. Also, the probation officers' impression of the offenders' needs is included in both models. Again, more specific information on these individual variables is provided in Appendix E.

Table 6.12: Individual Variables that Explained the Most Variance for Probation Revocation

Model 5: Best Wisconsin Variables	Model 10: Best of All Variables
	Gender (Gender)
	Marital Status (M_Status)
	Living Arrangement (Living)
	Juvenile Record (Juvenile)
Address Changes in last 12 months (R38)	
Percent employed in last 12 months (R39)	
Alcohol Usage to Criminal Activity (R40)	
Drug Usage to Criminal Activity (R41)	
Age at first adjudication of guilt (R43)	R43
	Prior Prob./ Parole Rev. (R45)
Prior Felony Adjud.of Guilt (R46)	
Adjudications for burglary, theft, auto theft or robbery (R47)	R47
Adjud. for assault offense wi/ last 5 yrs (R49)	
Employment Need (N51)	
Drug Usage Need (N57)	
PO's Impression (N61)	N61
	Education Composite (ZED_CAVG)
	Employment Composite (ZEMP_AVG)
	Substance Abuse Composite (ZSA_AAVG)

In sum, Model 7, which is the best overall model, performs only slightly better than the best Wisconsin model (Model 3). The RIOC increases from 29.4 to 33.6; the ROC curve increases from 73.6 to 76.4 and the percent classified correctly increases from 74.2 to 76.0. However, these gains are still likely too small to justify a policy shift away from the current use of the Wisconsin instrument.

Successful Probation The final set of prediction models analyze a positive outcome. Modeled are variables that predict the likelihood an offender will be successful on probation over the three-year period. Table 6.13 presents the summary findings of the prediction models constructed using successful probation over the three years as the predicted outcome. Appendix F contains the complete classification tables for each model and the statistics for all the variables included in the final prediction model.

Table 6.13: Predictive Accuracy of Various Successful Probation Prediction Models with the cutoff at .41

	True Positive		False Positive		True Negative		False Negative				
Model Type	%	N	%	N	%	N	%	N	RIOC	ROC	Percent Correct
1 Risk	20	589	18	520	45	1323	17	485	25.8	69.6	65.5
2 Need	23	776	21	714	41	1390	15	518	22.6	68.6	63.7
3 R&N	22	630	18	534	45	1305	15	444	27.3	71.7	66.4
4 FWD	21	621	19	539	45	1300	16	453	26.4	70.4	65.9
5 Best	22	631	19	542	45	1301	15	443	26.9	71.0	66.2
6 Cohort	23	652	17	496	46	1300	14	406	31.3	74.3	68.4
7 Ch Fwd	22	614	18	507	45	1289	16	444	28.1	72.4	66.7
8 Ch & Idx	24	812	18	613	43	1451	14	470	30.3	72.9	67.6
9Ch Idx Frd	24	793	18	613	43	1451	15	489	29.3	72.2	67.1
10Ch & Idx Best	23	793	18	623	44	1483	15	502	28.9	71.8	66.9

In general, the prediction models for successful probation do not perform as well as the revocation models. The only area where the classification tables perform better is for identifying true positives. All of the Wisconsin based models perform fairly similarly. Overall, the prediction model that is constructed using all of the Wisconsin risk and need variables (Model 3) yields the most offenders classified correctly (71.7%), the highest RIOC (27.3), and the highest ROC curve (66.4).

The cohort test models do not improve in any significant manner over the Wisconsin models. The prediction model (Model 6) that predicts the highest number of cases correctly contains all 52 variables in the cohort dataset that are correlated with successful probation. The statistical gains achieved from this model fail to justify the considerable increase in man-hours that would be needed to collect the information required.

Models 5 and 10 contain the prediction variables that consistently explain the highest percent of the variance in the models. These variables are highlighted to provide additional information regarding the variable that at the least, performs better than the other indicators. Table 6.14 provides a summary of those variables. Of particular note is that the composite variable for criminal history is not included. Included are more variables that relate to offender stability such as, address changes and employment history. Substance abuse variables are also major contributing factors. Again, more specific information on these individual variables is included in Appendix E.

Table 6.14: Individual Variables that Explained the Most Variance for Successful Probation

Model 5: Best Wisconsin Variables	Model 10: Best of All Variables
	Gender (Gender)
	Age at Intake (Age_in)
	Gang Affiliation (Gang)
Address Changes in last 12 months (R38)	(R38)
Percent employed in last 12 months (R39)	
Age at first adjudication of guilt (R43)	
Prior prob. / parole revocations (R45)	
Adjudications for burglary, theft, auto theft or robbery (R47)	(R47)
Academic and Vocational Need(N50)	
Employment Need (N51)	
Alcohol Usage Need (N56)	
Drug Usage Need (N57)	
	Education Composite (ZED_CAVG)
	Employment Composite (ZEMP_AVG)
	Substance Abuse Composite (ZSA_AAVG)

In sum, the cohort model (Model 6) that improves over the best Wisconsin model (Model 3) makes only slight statistical improvements and includes over 50 predictor variables. The RIOC increases from 27.3 to 31.3; the ROC curve increases from 71.7 to 74.3, and the percent classified correctly increases from 66.4 to 68.4. The statistical gains achieved form this model fail to justify the considerable increase in man-hours that would be needed to collect the information required.

Discussion and Summary on the Construction of Prediction Models

The findings in this section are far from what was initially expected. The Wisconsin Risk and Need Assessment Instrument does at the very least separate offenders into three classification categories, but with regard to predictive accuracy, its performance is poor. The instrument's performance is the least effective when predicting future rearrest. Only 11% of the offenders rearrested after three years are classified correctly by the Wisconsin risk variables. Even more unexpected is that the Cohort test variables, even with an extensive list of over 50 variables, failed to classify offenders any better than the Wisconsin variables. None of the models' RIOC scores are above the 36% range and only a few of the ROC curves are in the 70% range.

Some consideration for the poor performance of the prediction models must be attributed to the measurement error inherent in the dependent variables used in this study. The degree to which each outcome is a true representation of how bad or how good an offender is doing varies and is truly unknown. Variations take place on the part of the offenders and the criminal justice system. In the case of arrest for example, not all offenders who commit subsequent crimes are arrested; some offenders are caught after *x* number of times, and others are caught after only one offense. The criminal justice system with regard to who they target for arrest and how effectively they link crimes to arrest suspects. For example, variation may occur based on differential monitoring of certain types of offenders, certain areas of town, areas of the state, or even down to police precinct. Probation outcomes are equally as problematic. For example, there are numerous points in the decision making process which can affect whether an offender is revoked from probation. The discretion may start with the supervising officer and end ultimately with the sentencing judge. There are many stages in which a probation department's policy could affect the outcome of the offenders, that have little to do with accurately reflecting how bad or good they are. An example is the prevalence of intense monitoring of sex offenders. In some jurisdictions, small infractions (e.g., failure to pay fees), can lead to a revocation. All of this variation is likely to contribute to considerable error when constructing prediction models based on these less than perfect outcome measures. The extent to which this inherent flaw in available outcome data terminally affects the ability to construct robust prediction models remains a question to be answered.

Most of the blame for the poor performance of the prediction models must be attributed to the performance of individual predictor variables. Tables 6.15 and 6.16 summarize the Wisconsin risk and need variables and the cohort test set of all variables that are most predictive for each outcome respectively. Summary finding for each of the outcomes variables is provided.

Table 6.15: Individual Wisconsin Risk and Need Variables that Explained the Most Variance Across the Three Outcome Variables

Select Wisconsin Risk and Need Variables	Rearrest	Revocation	Successful Probation
Address Changes in last 12 months (R38)		(R38)	(R38)
Percent employed in last 12 months (R39)		(R39)	(R39)
Alcohol Usage to Criminal Activity (R40)		(R40)	
Drug Usage to Criminal Activity (R41)		(R41)	
Age at 1st adjudication (R43)	(R43)	(R43)	(R43)
Prior Prob. / Parole Sup. (R44)	(R44)		
Prior Prob./ Parole Rev. (R45)			(R45)
Prior Felony Adj. Guilt (R46)	(R46)	(R46)	
Adjudications for burglary, theft, auto or robbery (R47)	(R47)	(R47)	(R47)
Adjud. for assault offense within last 5 yrs (R49)		(R49)	
Educational Need (N50)			(N50)
Employment Need (N51)		(N51)	(N51)
Marital/Family Relations (N53)	(N53)		
Emotional Stability (N55)	(N55)		
Alcohol Usage Needs (N56)			(N56)
Drug Usage Need (N57)		(N57)	(N57)
Mental Ability (N58)	(N58)		
Health (N59)	(N59)		
PO's Impression (N61)		(N61)	

Table 6.16: Individual Cohort Dataset Variables that Explained the Most Variance Across the Three Outcome Variables

Cohort Dataset Variables	Arrest	Revocation	Successful Probation
Gender (Gender)	Gender	Gender	Gender
Marital Status (M_Status)	M_Status	M_Status	
Living Arrangement (Living)		Living	
Age at Intake (Age_in)	Age_In		Age_in
Legal Status (Legstat)	Legstat		
Gang Affiliation (Gang)	Gang		Gang
Prior Juvenile Record (Juvenile)	Juvenile	Juvenile	
Address Changes in last 12 mo. (R38)			R38
Age at 1st adjudication (R43)	R43	R43	
Prior Prob. / Parole Sup. (R44)	R44		
Prior Prob./ Parole Rev. (R45)		R45	
Prior Felony Adj. Guilt (R46)	R46		
Adjudications for burg., theft, auto or robbery (R47)		R47	R47
Adjudications for worthless checks or forgery (R48)	R48		
Financial Management (N52)	N52		
Emotional Stability (N55)	N55		
Mental Ability (N58)	N58		
PO's Impression (N61)		N61	
Criminal History Composite	ZCH_AVG		
Employment Composite	ZEMP_AVG	ZEMP_AVG	ZEMP_AVG
Education Composite		ZEDU_AVG	ZEDU_AVG
Substance Abuse Composite	ZSA_AVG	ZSA_AVG	ZSA_AVG

For predicting rearrest, the Wisconsin variables measuring age, criminal history, employability, marital relations, drug use and mental ability are predictive. From the cohort test variables, gender, gang activity and juvenile crime record are gained as additional predictors to explain continued adult offending. The significant finding from the cohort test variables is that juvenile behavior, specifically gang activity, is predictive of continued adult offending.

For predicting probation revocation, the Wisconsin variables measuring living stability, employability, substance abuse, criminal history, education and the probation officers' assessment of need are predictive. None of the psychological factors proved to be very predictive. Little new information was gained from the cohort test variables. Only gender and juvenile record are prediction variables not addressed in the Wisconsin factors. The same situation applies for successful probation completion predictor variables. Most of the Wisconsin factors are included, and little new information is gained from the cohort test variables.

This chapter comprehensively documents the poor performance of the Wisconsin assessment, particularly with predicting future criminal behavior, and demonstrates that the cohort test variables and index scales fail to perform any better. The data set used for this project is one of the largest samples ever used to test the predictability of the Wisconsin instrument and includes a large number of potential predictor variables based on individual characteristics thought to be predictive of future criminal behavior.

Chapter 7: Discussion and Conclusion

The most common current methods of predicting adult criminal behavior are only marginally predictive. Efforts to improve upon the current methods are also only marginally predictive. Demonstrated is a need for a paradigm shift in the field of criminal justice. This chapter serves three purposes. First, the purpose is to provide a summary of the research conducted as part of this study. Second, comparisons are made between the results of this research and other similar research that is published on the predictive power of adult felony risk assessments. Third, direction for future research in adult felony risk assessment, which includes this paradigm shift, is provided.

The results of the research are far from what was hypothesized. A comprehensive assessment of the predictive power of the risk and need variables currently used in the Wisconsin risk assessment model were conducted. The Wisconsin risk model is one of the most commonly used assessments, and limited research has been done to determine the predictive power of the variables. Also, tests using a large number of other risk and need variables, including index scales to construct an improved risk assessment model, were done.

No improved risk assessment model could be constructed from the data that were available. In fact, all of the models, including the Wisconsin risk model, performed poorly on a variety of statistical measures. This research, along with the findings of other similar studies, demonstrates that new approaches are needed in the field of adult risk assessment if any significant gains are to be made in predicting future adult offending. This is not to say that the current risk assessments are useless; they are better than relying solely on individual judgment and have about a 20% relative improvement over chance predictions. What this research does suggest is that any efforts to model the variables based on individual offender characteristics, which can be obtained easily by probation officers, is not likely to yield any improved predictive power.

Comparisons with Similar Research Findings

To demonstrate that these findings are not an anomaly with regard to the performance of the Wisconsin risk prediction model, the results from this research are compared to previously published works. Some of these studies were initially cited in Chapter Two. One of the initial research questions was the extent to which prediction could be improved by including a variety of dynamic predictors into the prediction models as well as using more objective measures which would, in theory, increase the reliability and validity of the information used to construct prediction models. None of these findings are significant in any sizable manner. This leaves one question pending. Is the rather poor performance of the

Wisconsin risk prediction models similar to what has been found in previous research? The answer is, to varying degrees, “yes”.

Harris (1994) conducted one of the most comparable studies on a sample of adult felons placed on probation in Travis County, Texas. The purpose of the study was to compare the predictive accuracy of the Wisconsin risk assessment, a case management system called Client Management Classification (CMC), and a combination of the two instruments. The results of how well the Wisconsin risk assessment performs for predicting the probation outcomes of revocation and arrest in Harris (1994) are compared to the present study in Table 7.1.

Another comparable study is Yacus (1998). Yacus conducted a study to determine how well the Wisconsin risk and need assessment instrument used in Virginia classifies adult felony offenders. A sample of 13,011 adult probation and parole offenders who were placed under supervision in 1994 was used. The dependent variable was success on supervision. The following table compares selected findings from the current study, to selected findings from Harris (1994, p. 161) and Yacus (1998, p. 80).

Table 7.1: Predictive Accuracy of Wisconsin risk assessment for the current study, compared to two different studies

Model Type	True Positive %	True Positive N	False Positive %	False Positive N	True Negative %	True Negative N	False Negative %	False Negative N	RIOC	Error Rate
Current Study Risk – Arrest	11	306	16	463	57	1669	16	481	17.6	32
Harris (1994) Risk - Arrest	9	35	47	187	42	166	2	8	57.7	49
Current Study Risk – Rvk.	11	307	14	394	63	1832	13	386	26.3	27
Harris (1994) Risk – Rvk.	13	52	43	170	41	161	3	13	54.5	46
Current Study Risk – Succ.	20	589	18	520	45	1323	17	485	25.8	35
Yacus (1998) Risk – Succ	57	577	22	223	9	94	12	119	18.7	34

Almost all of the models have classification error rates higher than the current study. In Harris (1994), the false positive rate is very high. In the Yacus study, the instrument over classified offenders as being successful. Since the RIOC is a function of both base rates and selection ratios, it should be analyzed in the context of the overall classification results. The higher RIOCs observed by Harris (1994) are primarily due to the over selection of false positives. This is reflected in the higher error rate on the performance of the Wisconsin instrument in that sample. Harris (1994, p. 162) found that risk predictions performed with CMC " . . . were not only more accurate, but make a greater improvement over chance than predictions based solely on the Wisconsin instrument for each of the outcomes measured." In Yacus (1998), the true negative rate and the RIOC are lower than the current study. Since the outcome predicted is success, the Wisconsin instrument over selected by 22% offenders who were predicted to be successful on probation and were not.

Sims and Jones (1997) conducted a study to determine factors associated with probation outcomes. The assessment instrument used in the study is very similar to the Wisconsin risk assessment. A sample of 2,850 felony probationers in North Carolina was used. Success or failure on probation was the dependent variable. The independent variables were general background variables, risk assessment scores used by probation officers to determine offender supervision levels, and the risk assessment instrument items. Two logistical regression models were reported. Model 1 consisted of basic background items (e.g., age, race, offense type, sentence length), results of assessment scores (e.g., supervision level), and total score on the assessment. Model 2 consisted of the 13 individual variables that made up their version of the Wisconsin type risk assessment. Table 7.2 summarizes the major findings from Sims and Jones' (1997, p. 323) regression models and presents comparable findings from two models developed as part of this study.

In Sims and Jones, Model 1 out performed Model 2. Model 2 is similar to the logistical regression model generated in this study that used the Wisconsin risk variables to predict probation revocation. Both models classify a similar number of cases correctly (71%).

Table 7.2: Predictive accuracy a Wisconsin based instrument compared to the present study

Model Type	Base Failure Rate	Percent Classified Correctly	Pseudo R^2
Sims and Jones (1997) Model 1	57%	81%	.341
Sims and Jones (1997) Model 2	57%	71%	.206
Current Study Wisconsin Risk and Revocation	23%	73%	.100
Current Study Wisconsin Risk and Successful	62%	66%	.106

This table is further support of the poor predictability of Wisconsin style variables. Sims and Jones (1997) Model 1, which did not include individual risk prediction items, outperformed the model based on the risk assessment variables. Only the statistics reported above are provided, therefore, error rates of classification and the RIOC are not known.

With regard to the specific variables that are statistically significant in explaining the variance in predicting future criminal behavior, some consistent findings are confirmed and unexpected findings documented. Consistent with most adult risk assessment research, most of the risk prediction variables focus on the individual characteristics of the offender. In this analysis, the best predictors of rearrest, which are consistent with previous research, are the offender's age, marital status and relations, and prior criminal history information. These factors consistently explain a large amount of the variation in models developed to predict future adult offending (e.g., Reed and Corzine 1997; Zamble and Quinsey 1997; Sims and Jones 1997; Morgan 1994).

One of the initial hypotheses for this study is that subjective predictor variables would not be as predictive as objective variables due to inter-rater reliability issues and validity concerns. However, two of the most subjective variables, offenders' emotional stability, and offenders' mental ability are among the strongest predictors of rearrest. In the instruction guide given to probation officers to score emotional stability, anger, fear, guilt, and grief, are listed as the major emotions causing difficulties for offenders. For mental ability, the scoring guide lists the following as problem indicators: impairment of maturation, learning ability, and/or social adjustment. One specific definition has to do with whether the offender lacks the ability for foresight, insight and hindsight. Though these definitions seem to be subjective, they proved to be predictive variables of future criminal behavior.

Many previous studies have documented the limitations of this type of risk prediction. This is certainly the case in this study, and unless major shifts are made in the conceptualization of adult felony risk prediction, major advancements are not likely.

The final section of this chapter addresses major shifts that are currently underway or that should be considered in the development and construction of improved adult prediction models.

Direction for Future Research

This section presents some direction for researchers considering strategies to improve the state of adult offender risk prediction. Information in this section is summarized into three major areas for consideration. First, adult risk prediction models should be more grounded in criminological theory. The advancements that are made in the sociological literature regarding causes of criminality should be incorporated into studies that seek to construct improved risk prediction models. Current adult risk instruments are only loosely grounded in theory. Second, evidence in the scholarly literature suggests that there may be advantages to using a battery of assessments, specifically from disciplines outside sociology (e.g., psychology), to more accurately measure cognitive and psychological characteristics of offenders that may make them a higher risk for reoffending. Specifically, the scholarly literature on the Porteus Maze Test and the Hare Psycopathy Checklist are reviewed. The final area presents evidence that suggests that looking beyond an offender's individual characteristics may be important for more accurate risk prediction and risk mediation. Some researchers are proposing to consider the community and/or environment in which offenders under community supervision reside as a contributing factor to their likelihood of success or failure on probation or parole. Each of these three sections is discussed separately in more detail.

Constructing Models Grounded in Criminological Theory

Significant improvement in offender risk prediction instruments will likely only be made if the specifications of the instruments become more closely linked with criminological theory. Actuarial prediction models to be used on adult felons should be based on research obtained from major theories. The hypothesis is that more complex theoretically grounded independent variables would yield more predictive models. Risk prediction instruments have traditionally been constructed based on modeling available independent variables to explain the largest amount of variance. The models are driven primarily based on their statistical predictability using available data rather than information based on explaining behavior. Krauss et al. (2000, p. 92) make the following related observation:

> Probation risk assessment and other forms of risk assessment have become exclusively based on prediction rather than explanation of behavior. Actuarial assessment instruments are, by and large, atheoretical, and consequently, do not effectively examine the

> causes of the behavior that the instruments are designed to predict. Present methods of probation risk assessment simply highlight individuals who are high risks for recidivism, without explaining why these individuals are more likely to recidivate.

There is a need to consider and incorporate current theoretical findings on the causes of continued criminality and operationalize the causes into predictor variables for inclusion into future actuarial assessment instruments.

One of the reasons adult risk assessments have evolved in an atheoritical manner is that most of the criminological literature and research during the last 40 years focuses on explaining delinquency (e.g., Sutherland 1937; Shaw and McKay 1942; Cloward and Ohlin 1960; Hirschi 1969; Gottfredson and Hirschi 1990). These theories seek to explain why some individuals become delinquent and others do not. Using factors that may explain delinquency (e.g., bonding, attachment, peer relations) to explain adult criminal offending is not always practical. Since crime peaks somewhere around the ages of 17 to 22 and then declines, at first rapidly and subsequently more slowly (Hirschi and Gottfredson 1983; Wilson and Herrnstein 1985; Cohen and Land 1987), the delinquency literature may be more practical after all. In the study sample for this dissertation, 57% of adult felons placed on probation are under the age of 30.

There are numerous theories that guide scientific explanations for delinquent behavior (e.g., self-control theory, cultural deviance theory, strain theory, social control theory). There is no consensus in the literature on which theory is better or worse, and many are in direct conflict with each other. Paternoster et al. (2001, pp. 221-222) succinctly summarize the controversy within the area of criminological theory that is critical to any efforts to predict adult criminal behavior:

> Our substantive results speak to an important current controversy in criminological theory. At their most basic level, theories of adult criminal offending give expression to one of two distinct themes. In one, variations in adult offending has its causal roots in events and experiences that occur earlier in life . . . According to this view, adult criminality is simply a later manifestation of a problem that originated in early childhood . . . In the second theme, variations in adult offending are not attributed solely or even largely to preadult events and experiences. Instead, this perspective suggests that life events occurring after the beginning of adulthood can exert powerful influences of offending during the adult years. This "early childhood is not everything" position argues that securing a good job or finding an emotionally satisfying spouse or partner may provide an effective curb to offending, just as losing a job or loved one may launch one on a crime "spree" (Paternoster et al. 2001, pp. 221-222).

Clearly there is no consensus in the theoretical literature as to the cause of adult criminality at this time, however there are several suggested starting points for theoretically based measures.

The applied research of adult risk prediction may be improved if it enters into the theoretical debate. Most of the recent research that has direct application to the construction of adult risk prediction instruments is based on one of three major theories of crime. These are the general theory of crime by Gottfredson and

Hirschi (1990), age-graded theory of informal social control by Sampson and Laub (1993), and differential association-reinforcement theory by Akers (1985).

Self Control In a revision of Hirschi's (1969) earlier work, Gottfredson and Hirschi (1990) set up a framework that focuses on the actions that occur prior to the deviant act. Their theory is the result of an attempt to merge classical and positivist criminology theories. The result of their endeavor is an alternative framework of self-control. Gottfredson and Hirschi's self-control model suggests that people differ in the extent to which they are restrained from criminal acts and that people with low self-control are more likely to engage in criminal activity (pp. 88-92). They conclude that, " . . . all of the characteristics associated with low self-control tend to show themselves in the absence of nurturance, discipline or training" (p. 95). Therefore, the major cause of low self-control, and hence crime, is ineffective child-rearing.

Considerable research was done in recent years to examine the general theory of crime and measure self-control (e.g., Gibbs and Griever 1995; Gibbs et al. 1998; Keane et al. 1993; Longshore 1998; Polakowski 1994), but there is no consensus. One potential application of Gottfredson and Hirschi's (1990) self-control theory to predicting adult criminal offending is a six factor, 24-item scale, developed by Grasmick et al. (1993). A number of studies have used the scale on a variety of subpopulations (see Vazsonyi et al. 2001 for a full review). One of the most recent and comprehensive tests of the Grasmick scale was conducted on a cross-cultural sample of 8,417 adolescents from four different countries (Vazsonyi et al. 2001) who were administered the 24-item scale. For the sample populations, lifetime deviance was measured with an instrument called the 55-item Normative Deviance Scale. One of the significant findings of the study is that the scale is predictive of deviance, with the risk-seeking subscale explaining up to 25% of variance in total deviance. The scale has also performed well in various studies of computed reliability analysis with (Cronbach's alpha) of .80. Application of the scale to an adult felony population could produce interesting results.

Another recent study (Alarid et al. 2000) tested five measures of social control: marital attachment, attachment to parents, attachment to friends, involvement, and belief. The social control variables of attachment to parents ($r = -.23$), involvement in conventional activities ($r = -.19$), and belief in the law ($r = -.25$) were significantly ($p<.01$) correlated with criminal behavior (Alarid et al. 2000, p. 184). Additionally, marital attachment ($r = -.10$) only reduces involvement in property crimes, and attachments to peers ($r = .15$) are positively correlated with criminal activity.

There is support for further testing on how self-control could assist in predicting future adult offending. A valid and reliable measure or scale may improve the predictability of probation risk assessment. Any future efforts in adult risk prediction should consider advancements made in self-control theory.

Age-graded theory Sampson and Laub (1993) have an age-graded theory of informal social control. Their theory expands the importance of social control mechanisms into adulthood. Sampson and Laub (1993, p. 140) emphasize the quality and strength of social ties more than the timing of discrete life events. For example, they do not contend that just having a job would increase social control. It has to do with having a job and the individual's commitment, stability and mutual ties to work. Adult risk prediction instruments frequently include the basic construct of social control variables, however, they fail to go to the next step in measuring the quality and strength of the social ties.

Sampson and Laub (1993, p. 139 - 178) test their theory on adult social bonds and change in criminal behavior. The independent variables they test are measures of job stability, commitment to job or educational goals, and attachment to spouse. For example, job stability is measured by composite scale variables for employment status, stability, and work habits. All of the factors are significantly and substantively important in predicting adult arrest (t-ratio = 4.24,

$p<.05$). Subjects with low job stability were five times more likely to engage in criminal activity.

They state (p. 178):

> . . . virtually every model produced a fairly straightforward and compelling picture: namely, childhood delinquency and adult social bonds in the form of job stability and marital attachment independently explain significant variations in adult crime.

Clearly there is a case for going beyond measures that simply document basic constructs, but measure the degree to which the construct ties the individual to society.

Differential Association Edwin Sutherland first introduced the notion of differential association theory in 1939. In Sutherland's (1947) perspective, all criminal behavior is learned generally from intimate associations with others. Techniques for criminal activity as well as motivations for committing crimes also are learned. This type of theory denies individual pathology or biological factors as the root of criminal involvement. The basic proposition of differential association is that individuals engage in criminal activity when they are provided with more results that are favorable to violating the law, than results unfavorable from violating laws.

An expansion on differential association theory was offered first by Burgess and Akers (1966), and then more fully by Akers (1985). Akers broadened Sutherland's focus with his differential association-reinforcement theory. Akers maintains the premise that criminal behavior is learned, but he broadens it to include both how people learn attitudes and techniques of crime from positive and negative reinforcement that result from their behavior. Aker's further development of learning theory offers a comprehensive look at how learning theory can be utilized to analyze deviant behavior. One particular scenario might include the absence of rewards from going to school and working at a minimum wage job. The lack of perceived rewards may make a career as a drug dealer seem more attractive.

Differential association theory is not as widely tested in recent years as self-control. However, recently, Alarid et al. (2000) tested the correlation between three measures of differential association (i.e., individual definitions toward crime $r = .27$, others' definition toward crime $r = .37$, and criminal friends $r = .39$) and criminal offending. They find all three to be significantly ($p < .01$) and directly correlated with property, violent and drug offenses. The measures tested are scales that could easily be collected on an adult offender population.

Constructing adult risk prediction models that are grounded in theory is a direction the field of criminology needs to make if any substantive gains in predictive power of these instruments are likely. Researchers considering investigations in the area of adult risk prediction should carefully review and consider efforts underway in criminological theory.

Considering a Battery of Assessments from Disciplines Outside Sociology

Current practices in the construction of adult risk prediction instruments focus on collecting a simple gauge of the severity of the relevant behavior. For example, a common question that probation officers are asked to respond to assess an offender risk level is: "Does the offender have a substance abuse problem?" It is proposed in this study that this variable is highly subjective and more objective questions are tested (e.g., crack use, intravenous drug use). Yet these proved to not be any more predictive. Improving the way data are collected does little to increase the predictive power of the instrument. Including the results or scores of scales used to measure other behavior (e.g., personality, temperament, level of addiction) as predictor variables may be a method for improving the predictive power of the risk instruments. As found in Sims and Jones (1997), the results of the assessments along with other indicators are more predictive than the individual variables. Harris (1994) finds similar results. One strategy to improve the predictive power is to consider utilizing a battery of indexes that may branch outside the field of sociology (i.e., psychology). The results of specialized scales could be an input into the prediction models.

An offender's personality and temperament is predictive of criminal offending (Hernstein 1995; Wilson and Petersilia 1995; Valliant et al. 1999; Hare 1980, 1985). Specifically, Hernstein (1995, p. 54) notes:

> Among the nonintellectual childhood precursors of criminal behavior one runs into repeatedly in the technical literature are restlessness; aggressiveness; resistance to discipline; hyperactivity; attention deficits; an appetite for risk, excitement, and danger; impulsiveness; coldness; shallow emotional attachments to other people (including one's family); a lack of commitment to social or religious mores; "problem behavior" or "troublesomeness"; dishonesty; and a precocious tendency to experiment with sex and drugs.

Presently, there is no standard measure to score or assess delinquent behavior as it relates to personality and temperament. However, there are some promising instruments that are predictive of criminal behavior. They are the Porteus Maze Test and the Hare Psychopathy Checklist.

Porteus Maze Test As described in detail by Wilson and Herrnstein (1985, pp. 173-175) and Riddle and Roberts (1977) the Porteus Maze test was developed in the 1930s by S.D. Porteus to supplement conventional intelligence tests. Docter (1972, p. 752) states "maze solving requires planning capacity, foresight, and the ability to learn from experience".

One main purpose of the test is to measure nonverbal reasoning, but Porteus believed that the test would measure " . . . planning ability, judgment, and impulsiveness . . ." and might be capable of predicting criminal behavior (Wilson and Herrnstein 1985, p. 173). There are multiple ways in which performance is measured with the maze test, but the one that is linked to predicting criminal behavior is the Q score (for qualitative).

The Q score reflects the quality of the performance of the individual completing the maze by counting the number of times they break the rules by lifting their pencil or moving outside the lines. Riddle and Roberts (1977) reviewed the results of all the studies up to that time that reported Q score means for delinquent, criminal, and normal subjects. The theory is that delinquents will have higher Q scores than nondelinquents. All of the studies reported a significant difference between the delinquents and non-delinquents and with a cutoff score of 29 for males, better than 70% of the subjects tested are correctly identified as delinquent or nondelinquent. "Not only does Porteus Q score discriminate delinquents from nondelinquents, it also appears to discriminate degrees of delinquency within both delinquent and nondelinquent groups" (Riddle and Roberts 1977, p. 422)

Though not all studies on the Porteus Maze test as a predictor of criminality are promising (see O'Keefe 1975), Docter (1972, p. 753) notes "the full development of the test's potential has suffered from a lack of clearly focused validation research."

During the 1980s, some researchers continued to test the validity of the maze test (Bell et al. 1983, Gow and Ward 1982). As it relates to criminal behavior, researchers are interested in the degree to which the maze test is a measure of impulsivity. All documented the usefulness of the instrument. Bell et al. (1982) additionally demonstrated its usefulness as a pre and posttest to measure the impact of cognitive programming that was conducted on a group of institutionalized boys.

More recently, Valliant et al. (1999) use the Porteus Maze Test as part of a battery of tests to determine its ability to predict the difference between violent and nonviolent offenders. It is hypothesized that violent offenders have lower levels of executive functioning. The maze test is thought to be a measure of planning ability, impulsivity and executive functioning. Following is the significant finding of the study.

> The executive functioning results from the Porteus Maze test showed significant differences between the violent and nonviolent offenders . . . Those offenders who had lower scores undeniably would process information less accurately and would have a tendency to make more perseveration errors than the other groups studied in this investigation (Valliant et al. 1999, p. 679).

The preliminary positive findings for recent research using the maze test offers promise for continued study.

Giancola et al. (1998) used the maze test to study the association between low executive cognitive functioning and anti social behavior. They find additional support for the previous findings (e.g., Moffitt 1993) that males with antisocial personality disorder and conduct disorder demonstrate lower executive cognitive functioning as demonstrated by the Porteus Maze test.

No studies were located that specifically used the maze test on an adult probation population. The test is easy to administer and score, and most tested subjects find it enjoyable to complete (Docter 1972). The maze test could be one of a battery of instruments that could be used in an adult probation setting for gauging offenders cognitive functioning as it might relate to risk of future offending and any subsequent cognitive improvement. The results of the test could also prove to be a predictive input into actuarial prediction models.

Hare's Psycopathy Checklist (PCL) The Psychopathy Checklist (PCL) is a psychological scale designed to diagnose psychopathy in criminal populations (Hare 1980, 1985). The 22-item instrument assesses personality characteristics and criminal history items. More specifically, psychopathy is defined in the following manner (Hare 1970, p. 4):

> This term refers to chronically antisocial individuals who are always in trouble, profiting neither from experience nor punishment, and maintaining no real loyalties to any person, group or code. They are frequently callous and hedonistic, showing marked emotional immaturity, with lack of responsibility, lack of judgment, and an ability to rationalize their behavior so that it appears warranted, reasonable and justified.

Hart et al. (1988) used the PCL to predict the behavior of male offenders released from prison. The PCL made significant contributions predicting failure on parole, however, its applicability to adult probation populations is not yet known (X^2 = 11.48, $p < .001$) Offenders classified as high risk failed at significantly higher rates (42%) than offenders classified as low risk (20%) or those classified in the middle group (30%). Serin et al. (1990) find similar results with the PCL. Serin et al. (1990) include the PCL along with other psychological and risk prediction instruments (i.e., Quick Test, Hogan's Empathy Scale, Impulsiveness-Monotony-Avoidance-Detachment Scale, Gough's Socialization Scale, and Marlowe-Crowne Social Desirability Scale). He finds that the PCL predicts recidivism better than the other indicators although goodness of fit is, in absolute terms, low. More recently, Valliant (1999, p. 678) finds that ". . . violent offenders had statistically significant psychopathic tendencies as evidenced by the elevated scores on the [Hare] Psychopathy Checklist-Revised."

Even though the PCL looks promising as a tool to predict recidivism, policy considerations exist concerning its utilization. For example, not all psychopaths fail on supervision. Studies report that psychopaths are four times more likely than nonpsychopaths are to fail. To base release decisions solely on this criterion is not encouraged (Serin et al. 1990, Hart et al. 1988). Another consideration involves labeling offenders as psychopathic, particularly if treatment is not available (Serin et al. 1990). The instrument is generalizable to diverse offender populations, however, its applicability to a probation sample is questionable. The PCL generally identifies from 18% to 40% of criminal samples in prison as psychopaths. An even lower occurrence rate would likely exist in probation populations. Its direct applicability to an adult probation population as one factor in predicting offender risk of future criminal activity is not yet known. However, it could be used as one assessment in a battery of tools for predicting likelihood of future offending.

Considering a Multi-Dimensional Approach

Adult felony risk assessment instruments mainly collect information on the individual offender. Some information regarding the offender's family or peer associates may be factored into the prediction models, but they mainly focus on the individual. Proposed in this section is that research should be conducted to consider a multi-dimensional approach to predicting the risk level of an offender. Most of the risk factors that are used to model offender risk, deal with their possible motivations for offending. Little attention is given to their opportunity to offend. Sampson (1995, p. 193) notes that "although individual and family-level prevention are welcome partners in crime control, there is another target of intervention that has been widely neglected in public policy circles – the community."

The type of supervision an offender requires and the risk of that offender committing a subsequent crime are two different issues. If one of the primary purposes of assessing and classifying offenders is to attempt to intervene and mitigate future offending, consideration should be given to all the factors that may contribute to an offender's likelihood of offending (e.g., opportunity).

Most recidivism risk assessments, including the ones tested in this study, focus almost exclusively on the offender's individual behavior. Little information is obtained on the environment in which the offender will be living and working. Gottfredson and Taylor (1986) are the first criminologists to utilize environmental variables in predicting recidivism. Their specific research question is (1986, p. 133) "by considering the socio-environmental context into which an offender is released after a period of incarceration, can we improve upon recidivism predictions based solely on personal characteristics of the offender".

Some of the environmental variables collected are percent residential versus commercial street frontage, the appearance of the neighborhood (e.g., graffiti), how the land in the neighborhood was used, and factors relating to the social climate of the neighborhood. By themselves, the environmental variables do little to explain the outcomes of their sample. However, the interaction between offender characteristics and the environment does increase the predictive power of regression models. The theory behind the interaction effect is that behavior is a function both of the person and the environment.

Since then, little research has been done in this area. More recently, researchers have proposed this added dimension to prediction (Dooley 1999, Joyce 1996), but the concepts are still in the developmental stages. They are in the theoretical stage in trying to determine what environmental factors might be relevant. For example, Joyce (1996) proposes that community risk factors such as economic deprivation, high rates of crime and substance abuse, and low neighborhood attachment work in relationship with individual risk factors. Dooley (1999) proposes new methods for classifying offenders based on restorative justice principles, which allow for matching offenders with a new array of resources.

Bhati (2001) conducted a study to increase the scholarly knowledge on how the environment in which an offender is released affects recidivism prediction models. The analysis suggests (p. 114) “that restricting the causal link between recidivism and individual-level characteristics significantly reduces the overall fit of the model.” Environmental factors do matter in constructing prediction models. Bhati (2001) attributed 70% of the overall reduction in uncertainty to individual factors and 30% to environmental.

A paradigm shift is changing the focus of work of criminal justice, and this paradigm shift needs to turn towards the assessment tools that are currently in use. Traditional risk models would move from being one- dimensional and offender-based to being a multi-dimensional, multi-level risk assessment and prevention instrument. Utilizing a battery of assessments grounded in theory that take into account the offender’s characteristics and the community in which they reside, may be the only way we make progress in predicting their likelihood of future offending.

Appendices

Each appendix cited in the text is listed in alphabetical order in this section.

Appendix A: Felony Cohort Data Form and Codebook

Texas Department of Criminal Justice Community Justice Assistance Division
Felony Cohort Data Form
Extracted Instructions and Data Elements

Instructions: Please complete the following information on all original FELONY probation intakes during October 1993. The information should be complete by a Probation Officer at the time the initial Case Classification Risk/Needs Assessment is conducted (i.e., within 45 days of intake, CJAD Standards Section 163.35 (d)(3)). If an individual is already under felony probation supervision for an offense in the country, the individual would not count as an original intake.

Please refer to the codebook prior to completing the information requested in the data form. Reliability and validity of the information is critical and random reliability checks will be conducted on forms submitted. Every blank provided on the form should have a response. For multiple choice questions, circle the answer and fill in the blank fields with the appropriate code. This will ensure accuracy on both your part and ours as we data enter the information. Please write your responses clearly and legibly in either black or blue ink. Do not use pencil, If the individual absconds or is transferred before complete information is obtained, mark the appropriate option below and follow the specific instructions.

Once you have completed the form, print your name at the bottom and give it to the Data Control Coordinator designated by your office for this project. Thank you for your assistance.

Felony Cohort Data Elements
Probationer Information:
1. County Code
2. Name (Last, First, MI, Suffix)
3. DPS Number (If not available, enter 9999999)
4. Social Security Number (If not available, enter 999 99 9999).
5. Date of Birth
6. Race/Ethnicity
    1. Anglo
    2. African-American

3. Hispanic
4 Other

7. Gender
1. Male
2. Female

8. Marital Status
1. Married/Common Law
2. Remarried
3. Widowed
4. Separated
5. Divorced
6. Never married

9. Current Living Arrangement
1. Living with spouse and/or children
2. Living with mother and/or father
3. Alone
4. Other
9. Not Available

Current Offense:
10. Disposition Date
11. Date of Original Probation Intake
12. Current Offense Grid (Indicate all offenses that were disposed of on the disposition date, except for Class C Misdemeanors.)

Cause Number	Offense Name Be as specific as possible	Level Enter Code	Disposition Enter Code	Length

Level:

1. 1st Degree Felony
2. 2nd Degree Felony
3. 3rd Degree Felony
4. Misdemeanor

Disposition:

1. Fine Only
2. Deferred Adjudication
3. Adjudicated probation
4. Jail (non-probated)
5. Prison (non-probated)
6. State Boot Camp
7. Other

13. Type of Intake
    1. Direct Sentence
    2. Return from State Boot Camp
    3. Return from Shock Incarceration
    4. Return from SAFPF
14. Was a weapon involved in the commission of the offense?
    1. Yes
    2. No known weapon involvement
15. Weapon Type
    0. No Weapon
    1. Firearm
    2. Knife
    3. Other
    4. Unknown weapon type
16. Legal Status Time of Offense
    1. On Misdemeanor Probation
    2. On Felony Probation in another county
    3. Parole/Mandatory Supervision
    4. No known Criminal Supervision

Criminal History:

17. Indicate the primary source of the information coded in this section
18. Criminal Gang Affiliation:
    1. Yes
    2. No known affiliation
19. Prior Juvenile Record
    1. Yes
    2. No known record
20. Prior Offense Grid

Indicate the probationer's Prior Adult offense history.

	Felony		Misdemeanor Exclude Class C	
Offense Type	# of Arrests	# of Convictions	# of Arrests	# of Convictions
Against Property				
Against person(s)				
Drug Offenses				
Alcohol Offense				
Other				
Total				

21. Number of Prior Non-Probated Sentences to Incarceration:
    Jail
    Texas Youth Commission (TYC)
    Prison (ID)
22. Number of Prior Adlt Felony Periods of Probation/Parole Supervision
23. Number of Prior Adult Felony Probation/Parole Revocations

Social History:

24. Highest Grade Completed
25. High School Diploma or GED
    1. Yes
    2. No

26. Current Employment Status
1. Full-time
2. Part-time
3. Seasonal
4. Student/retired/homemaker/disabled

Substance Abuse:
This section requires a brief interview with the probationer. The interview should be part of the initial Risk and Needs assessment that must be conducted on the probationer within 45 days of intake.

27. Was the probationer under the influence of alcohol and/or illegal drugs at the time of the current offense?
1. Yes
2. No

28. Number of times the probationer has participated in alcohol/drug abuse treatment:
Outpatient Treatment
Inpatient Treatment

29. Has the probationer used illicit substances by injection (i.e., intravenously) during the past 12 months:
1. Yes
2. No known use

30. Frequency of Alcohol Consumption during the past 12 months?
1. No regular use
2. Monthly
3. Weekly
4. 3 to 4 times a week
5. Daily

31. Number of alcoholic Drinks Generally Consumed in One Sitting in the past 12 months? (enter "99" if Not Applicable: No regular use)

32. Identify probationer's frequency pf illegal use of the following substances during the past 12 months:
Frequency of Use:
1. No Regular Use
2. Monthly
3. Weekly
4. 3 to 4 times a Week
5. Daily

Cocaine/Crack
Opiates/Heroin
Sedatives/Hypnotics
Other
Marijuana/Hashish
Amphetamines/Met amphetamines
Inhalants

Probation sanctions:
The information reported in this section is intended to collect selected information on programs and services imposed on the probationer. This section is not intended to capture all of the special conditions that can be imposed on a probationer throughout their probation term.

33. Program Placement:
    0. No Applicable Programmatic Placement
    1. Intensive Supervision Probation
    2. Surveillance Probation
    3. Specialized Caseload Probation
    4. Residential Placement
    5. Substance Abuse Felony Punishment Facility

34. Was the Programmatic Placement Court Ordered?
    0. Not Applicable
    1. Yes
    2. No

35. For Non-Residential Placement (i.e., item 33 equal codes 1-3) enter the number of face-to-face contacts the probationer will have with their officer each MONTH for the first six months of probation. (Enter a "0" if the probationer will be contacted less than once a month, placed on indirect status or will report by mail. Enter "99" if the probationer will be in a residential facility)

36. For residential Placements (i.e., item 33 equals code 4), indicate the residential service area the probationer will enter. For combination facilities indicate the service are they will enter FIRST:
    0. Not a Residential Placement, Not Applicable
    1. Restitution Center/RC
    2. Intermediate Sanction Facility/ISF
    3. Substance Abuse treatment Facility/SATF
    4. Court Residential Treatment Center/CRTC

5. Local Boot Camp (non-State Boot Camp)
6. Residential Facility for Mentally Impaired
7. Other

37. Sanctions Impose on the Probationer:

1. Yes – the sanction was imposed
2. No – the sanction was not imposed

Jail Time
Day Report Center
Employment Program
MH/MR Services
Electronic Monitoring
Outpatient Treatment
Educational Program

Case Classification Risk/Needs:
The remaining questions on the data gathering instrument are the Case Classification Risk/Need Assessment variables. The coded responses are not weighted and for many of the questions "raw" information is required. This is necessary to validate the assessment instrument. Be careful to use the codes provided, and NOT weighted codes that are on the actual case classification instrument.

Case Classification Risk Items
38. Number of Address Changes in the last 12 months
39. Percentage of Time Employed in Last 12 Months (If this item is not applicable, enter 999)
40. Alcohol Usage
   1. Alcohol use unrelated to criminal activity, e.g., no alcohol-related arrests, no evidence of use during offense.
   2. Probable relationship between alcohol use and criminal activity
   3. Definite relationship between drug involvement and criminal activity, e.g., patter of committing offense while using drugs, sale or manufacture of illegal drugs.
41. Drug Usage
   1. No abuse of legal drugs; no indicators of illegal drug involvement
   2. Probable relationship between drug involvement and criminal activity
   3. Definite relationship between drug involvement and criminal activity, e.g., pattern of committing offenses while using drugs, sale or manufacture of illegal drugs
42. Attitude
   1. Motivated to change; receptive to assistance
   2. Somewhat motivated but dependent or unwilling to accept responsibility
   3. Rationalizes behavior; negative; not motivated to change
43. Age at first Adjudication of Guilt
44. Number of Prior Periods of Probation/Parole Supervision
   (If there are none, enter a "0")
45. Number of Prior Probation/Parole Revocations
   (If there are none, enter a "0")
46. Number of Prior Felony Adjudications of Guilt
   (If there are none, enter a "0")
47. Adult or Juvenile Adjudications for Burglary, Theft, Auto Theft, or Robbery
   1. Yes

2. No

48. Adult or Juvenile Adjudications for Worthless Checks or Forgery

    1. Yes
    2. No

49. Adult or Juvenile Adjudication for Assaultive Offense within Last FIVE yrs:

    1. Yes
    2. No

Case Classification Need Items

50. Academic/Vocational Skills

    0. High school or above skill level
    1. Adequate skills; able to handle everyday are requirements
    2. Low skill level causing minor adjustment problems
    3. Minimal skill level causing serious adjustment problems

51. Employment

    0. Satisfactory employment for one year or longer
    1. Secure employment, no difficulties reported; or homemaker, student or retired
    2. Unsatisfactory employment or unemployed; but has adequate job skills
    3. Unemployed and virtually unemployable; needs training

52. Financial Management

    0. Long-standing patter of self-sufficiency; e.g., good credit
    1. No current difficulties
    2. Situational or minor difficulties
    3. Severe difficulties; may include over drafts

53. Marital/Family Relationships

    0. Relationships and support exceptionally strong
    1. Relatively stable relationships
    2. Some disorganization or stress but potential for improvement
    3. Major disorganization or stress

54. Companions

    0. Good support and influence
    1. No adverse relationships
    2. Associations with occasional negative results
    3. Associations almost completely negative

55. Emotional Stability

    0. Exceptionally well adjusted; access responsibility for actions

1. No symptoms of emotional instability; appropriate emotional responses
2. Symptoms limit but do not prohibit adequate functioning; e.g., excessive anxiety
3. Symptoms prohibit adequate functioning; e.g., lashes out or retreats into self

56. Alcohol Usage Problems
1. No use; use with no abuse; no disruption of functioning
2. Occasional abuse; some disruption of functioning
3. Frequent abuse; serious disruption of functioning

57. Other Drug Usage Problems
1. No disruption of functioning
2. Occasional abuse; some disruption of functioning
3. Frequent abuse; serious disruption of functioning

58. Mental ability
1. Able to function independently
2. Some need for assistance; potential for adequate adjustment; possible retardation
3. Deficiencies severely limit independent functioning; possible retardation

59. Health
1. Sound physical health; seldom ill
2. Handicap or illness interferes with functioning on recurring basis
3. Serious handicap or chronic illness; needs frequent medical care

60. Sexual behavior
1. No apparent dysfunction
2. Real or perceived situational or minor problems
3. Real or perceived chronic or severe problems

61. P.O.'s Impression of Probationer's Needs
0. Well Adjusted
1. No needs
2. Moderate Needs
3. High Needs

Texas Felony Cohort Codebook
September 1993
Extracted Instructions

General Instructions Please complete the Felony Cohort Data Form on all FELONY probation intakes made during October 1993. The information should be completed by a Probation Officer at the time when the initial case Classification Risk/Needs Assessment is conducted. This initial assessment must be done within 45 days of intake, CJAD Standards Section 163.35 (d)(3).

The form is not to be completed on misdemeanor probation adds, even if the case felony offense reduced to a misdemeanor. If the primary case was reduced to a misdemeanor at disposition, the individual will be reported and funded as a misdemeanor probationer. Therefore, a form SHOULD NOT be completed on these individuals. The forms completed should equal the number of Felony Original Probation Placements on the Monthly Community Supervision and Corrections Report (i.e., MCSCR section II.A.1.). If an individual is already under felony probation supervision for an offense in the county. The individual would not count as an original intake

Please read this codebook prior to completing the information requested in the Felony Cohort Data Form. Reliability and validity of the information is critical, and random reliability checks will be conducted on forms submitted. The information being gathered will be used to:

- Validate the Texas Case Classification Risk/Needs assessment instrument; Obtain a cohort of probationers prior to the full implementation of penal code changes passed by the 73rd legislature so the impact on probation populations can be measured;
- Obtain a statewide profile of probation placements; and
- Obtain comparison groups for evaluation studies of community corrections programs.

It is estimated that it will take approximately 45 minutes to conduct the interview and complete the Felony Cohort form. This form is not intended to replace the Case Classification Risk/Needs Assessment or any other paperwork that is completed on a probationer at initial assessment. Therefore, the Risk/Needs Assessment and all other paperwork must be completed in addition to the data gathering form.

Every blank provided on the form should have a response. For multiple choice questions, circle the answer and fill in the blank fields with the appropriate code. This will ensure accuracy on both your part and ours as we enter the information. Please write your responses clearly and legibly in either black or blue ink. Do not use pencil. Once you have completed the form, print your name at the bottom and give it to the Data Control Coordinator designated by your office for this project. Thank you for your assistance.

Some Useful Documents The Pre- or Post-Sentence Investigation Report and Conditions of Probation will be very helpful documents for completing the form. Also, some additional information must be obtained during the interview that is conducted with the probationer while doing the initial risk/needs assessment. DPS rap sheets and other probation intake documents could be referenced.

Quality Control During October, on-site validity checks of the data forms will be conducted by CJAD and Criminal Justice Policy Council (CJPC) at various locations throughout the state. Other sites may be required to submit a few forms early so coding can be reviewed and potential problems can be identified.

We encourage the Data Control Coordinator form each department to screen all forms to ensure the information has been coded properly. A few things to check are:

1. Make sure all the spaces on the form are filled in.
2. Make sure all the information is legible.
3. Check to make sure valid codes have been used.

Form Submission All Felony Cohort Data forms should be routed to the Data Control Coordinator designated by your department. This is to ensure that all of the information is funneled through one location within the CSCD. Individual probation officers SHOULD NOT mail the forms to CJAD. We want to receive the information at one time. The forms SHOULD NOT be submitted until after the MCSCR for October 1993 is completed.

When the MCSCR for October 1993 is completed, generate on alphabetical listing of the names of all probationers who were original probation placements during the month. There should be a Felony Cohort Data Form for each individual. On or before November 19th, mail the alphabetical listing and all the forms to:

Community Justice Assistance Division
Attention: Statistics and Evaluation Unit

8100 Cameron Road, Suite 450B
Austin, Texas 78754-3987

If a data form is not enclosed with the initial mailing, write the reason on the alphabetical listing and the date it is expected to be completed. For example, if a probationer is placed on probation on October 30, 1993, the form may not be completed until November 15th. In this situation, indicate on the alphabetical listing that the intake interview has not been conducted and provide the approximate date the information is expected to be completed. All remaining forms should be mailed to CJAD by December 15, 1993.

On the front of the data form, the name of the individual who coded the information and the date it was coded should be indicated.

If the form is not complete, place an "X" in one of the four options provided and follow the specific instructions. For example, if a probationer is immediately being transferred out of the state, you would place and "x" next to Transferred out of state or county and indicate the date. Then you would complete the Probationer Information and Current Offense Sections. The probation officer would route the form to their Data Control Coordinator who would then submit it to CJAD with the rest of the forms.

Probationer Information

1. County Code. Enter the 3-digit county code that identifies where the probationer was placed on probation. Indicate the county with jurisdiction over the case, NOT the chief county of CSCD. For example, probationers placed on probation in Blanco County would receive the code "016". A full listing is provided in Appendix A.

2. Name (Last, First, MI, Suffix). Enter the probationer's name as it appears on your official departmental records (court order). Provide the last name, first name, middle initial, and any suffix (e.g., III, Jr)

3. DPS Number. Enter the 7digitDPS number, also called the SID number if the DPS number is unavailable, enter "9999999"

4. Social Security Number. Enter the probationer's 9-digit social security number. IF the number is not available, enter "999 99 9999".

5. Date of Birth. Enter the month, day and year for the probationer's date of birth. Do not mistakenly enter the current year (1993) as the year of birth. If the complete date of birth is not available, use zeroes for the unknown month, day or year.

6. Race/Ethnicity/ Enter the appropriate code that identifies the probationer's race/ethnicity. If the person's ethnicity is not obvious to the officer, enter the one with which the probationer wishes to be identified. If they refuse to identify an ethnic group, use your best judgment. Enter one of the corresponding codes:

1. Anglo
2. African-American
3. Hispanic

4 Other

7. Gender. Enter the appropriate code that specifies the sex of the individual.

1. Male
2. Female

8. Marital Status. Enter the code that identifies the probationer's current marital status. Enter one of the corresponding codes:

1. Married/Common Law
2. Remarried
3. Widowed
4. Separated
5. Divorced
6. Never married

9. Current Living Arrangement. Enter the Code that identifies the probationer's current living arrangement. If a probationer fits into more than one category, enter the one with the lowest number. Enter one of the corresponding codes:

1. Living with spouse and/or children
2. Living with mother and/or father
3. Alone
4. Other

9. Not Available

Current Offense:

10. Disposition Date. Enter the date the current offense was disposed. This would be either the date they were sentenced or the date that deferred adjudication was imposed.

11. Date of Original Probation Intake. Enter the date when the original probation intake occurred. This should be a date in October 1993.

12. Current Offense Grid. Indicate all offenses that were disposed of on the disposition date. Exclude Class C Misdemeanors. At least one pf the dispositions MUST be a felony disposition to deferred or adjudicated probation.

Cause Number. Provide the court assigned cause number for each offense.

Offense Name. Write the name of each of the offenses that were disposed on the above disposition date. Please be as specific as possible and do not use abbreviations. For example, if the current offense is Possession of Cocaine less than 1 gram, DO NOT indicate POCS or Possession of a Controlled Substance.

Level. Indicate each offense level. Enter the appropriate code.

1. 1st Degree Felony
2. 2nd Degree Felony
3. 3rd Degree Felony
4. Misdemeanor

Disposition. Indicate the type of disposition the individual received for each offense.

1. Fine Only. This would include the impositions of a monetary fine only. This may apply to Class A or B misdemeanors. Class C misdemeanors should be excluded.
2. Deferred Adjudication. A form of probation that if completed successfully will prevent a final conviction form appearing on the offender's record.
3. Adjudicated probation. The release of a convicted defendant by the court under conditioned imposed by the court for a specified period during which the imposition of the sentence is suspended.
4. Jail (non-probated). The full imposition of the sentences is the placement of a convicted defendant into a local jail (i.e., a sentence to jail). This DOES NOT apply to jail time as a condition of probation.
5. Prison (non-probated). The full imposition of the sentence is the placement of a convicted defendant into prison. This DOES NOT apply to sentences to prison that are suspended and probated.
6. State Boot Camp. The placement of a convicted defendant into a State Boot Camp (formerly A.I.P. and S.A.I.P.) operated by the Institutional Division.

7. Other. All dispositions that do not fit into the categories above. This may include civil probation or deferred prosecution.

Length. Enter the length of time in Months for each disposition. For non-probated case, indicate the actual sentence length. For deferred and adjudicated probation cases, indicate the probation length. For fines only, enter “NA”

Example

Cause Number	Offense Name	Level	Sentence	Length
99-244-K	Possession of Cocaine (<28 grams)	2	3	120

13. Type of Intake
    1. Direct Sentence refers to a placement directly from the courts.
    2. Return from State Boot Camp applies to persons being placed on probation after being returned from the State Boot Camp of TDCJ-ID.
    3. Return from Shock Incarceration applies to persons being placed on probation after being sentenced to incarceration in the TDCJ-ID.
    4. Return from SAFPF applies to persons being placed on probation after being returned from a Substance Abuse Felony Punishment Facility. Do not include persons who were confined as a condition of probation.

14. Was a weapon involved in the commission of the offense? This question pertains to the actual offense, which occurred and does not necessarily correspond to the offense for which the probationer was convicted. If there were multiple parties involved in the offense, and any party has a weapon, the answer to this question would e “1” for Yes.

In any case where the probationer acted in such a manner that the victim believed a weapon was possessed even though there actually was none (i.e., feigned weapon), code this item as “1” for Yes. If there is no mention of weapon used or threat thereof, you may assume that there was no weapon involved in the primary offense. Do not consider parts of the body or a moving vehicle as weapons for this question.

15. Weapon Type. Indicate the type of women that was involved in the commission of offense. Enter a “0” if no weapon was involved or “9” for unknown.

16. Legal Status Time of Offense Enter the code that best describes the probationer's legal status at the time the offense was committed.

1. On Misdemeanor Probation. Enter this code if the individual was under any form of misdemeanor probation (i.e., deferred or adjudicated).
2. On Felony Probation in another county. Enter this code if the individual was under any form of felony probation (i.e., deferred or adjudicated) in another county. This form should only be completed on original probation intakes. If the individual is already on felony probation in your county, this form should not be completed.
3. On Parole or Mandatory Supervision. Enter this code if the individual was on parole or mandatory supervision.
4. No known Criminal Supervision. Enter this code it the probationer was under no known form of criminal supervision. If the probationer was only under personal, cash or surety bond supervision and/or pretrial supervision, this code would apply.

Criminal History:
Most of the information in this section can be derived form the pre or Post-Sentence Investigation Report (PSIR).

17. Primary Source of Information. Indicate the primary source of the information coded in this section. Examples include the Pre Post-Sentence Investigation Report, DPS rap sheet and self-report.

18. Criminal Gang Affiliation. Indicate whether the probationer has been involved in any criminal gang activity. A "Criminal Street Gang" means three or more person having a common identifying sign or symbol or an identifiable leadership who continuously or regularly associate in the commission of criminal activities (Penal Code 70.01 (d)).

19. Prior Juvenile Record. Indicate whether the probationer has a known prior juvenile record.

20. Prior Offense Grid. Indicate the probationer's PRIOR ADULT offense history. DO NOT include any of the current offenses EXCLUDE Class C Misdemeanors. For each offense type, enter the number of prior felony and misdemeanor arrests and convictions.

Offense Type.

Against Property This includes offense involving the harm of property (e.g., burglary, trespass, arson with no death or injury, criminal mischief, vandalism, theft, possession of stolen property, fraud, forgery, embezzlement).

Against Person(s) this includes offense involving the harm of people (e.g., robbery, aggravated assault, sexual assault, homicide, manslaughter, kidnapping, false imprisonment)

Drug Offenses this includes any crimes related to the illegal use of drugs (e.g., Manufacture, Sale or Possession of Controlled Substances, illegal prescriptions).

Alcohol Offense this exclusively applies to alcohol related offense (i.e., Driving While Intoxicated). Note that Public Intoxication WOULD NOT be included here because Class C Misdemeanors are excluded.

Other All other offenses that do not fit into the above categories should be included here.

Arrests. Indicate the total number of separate prior arrests the probationer has experienced. Do not include the arrest that occurred as the result of the current offense.

Convictions. Indicate the number of prior convictions the probationer experienced.

Imposition of fines, probationer, jail and prison would be included. Deferred prosecution and adjudication WOULD NOT be counted.

21. Number of Prior Non-Probated Sentences to Incarceration. Indicate the number of PRIOR sentences the probationer has served in jail, the Texas Youth Commission and prison. Count only sentences. Periods of jail time as a condition of probationer, placements in a SAFPF, State Boot Camp and Shock Probation should not be included.

22. Number of Prior Adult Felony Periods of Probation/Parole Supervision. Include only periods of adult supervision. DO NOT count juvenile supervision. Include deferred adjudication probation term. Do not include the present probationer in the calculation. The information should be derived for the PSIR. Enter the number of Prior Periods of Felony Probation and/or Parole Supervision. If there are none, enter a “0”.

23. Number of Prior Adult Felony Probation/Parole Revocations. Enter the number of the revocations from either probation or parole. Include all dispositions on MTRs where the court actually revokes probation. Do not include modifications to probation sentences or deferred adjudications that are adjudicated and then probated. Include individuals on deferred adjudication whose cases are adjudicated and who are revoked and sentenced to incarceration (non-probated). If there are none, enter a "0". Include only revocations that occurred while the probationer was an adult.

Social History:
24. Highest Grade Completed. Enter the highest grade in years that the probationer completed on the day of assessment. If the probationer has some college, enter 12 plus the number of years completed. Round down in situations with uncompleted years. For example, the individual completed three semesters of college (12 + 1 ½ = 13). Thirteen (13) would be entered. This DOES NOT necessarily indicate level of attainment (e.g., 8^{th} grade reading level).

25. High School Diploma or GED. Enter a "1" if the probationer has earned a High School Diploma or a GED, or a "2" if they have not.

26. Current Employment Status. Enter the appropriate code that refers to the probationer's legal employment status at the time of this assessment. Employment refers to the performance of a legal service or the legal production or goods in exchange for payment.

1. Full-time refers to a full-time (at least 35 hours per week) legitimate occupation.
2. Part-time refer to those probationers who commit part of their time to work. Include homemakers, students and retirees.
3. Seasonal refers to full-time employment on a seasonal basis. Examples would include fruit and vegetable harvesters, and oyster shuckers.
4. Student/retired/homemaker/disabled refers to full-time students, homemakers, retired people and the medically disabled.
5. Not Employed are those who would normally be expected to be in the work force, but who are not.

Substance Abuse:
This section requires a brief interview with the probationer. The interview should be part of the initial Risk and Needs assessment that must be conducted on the

probationer within 45 days of intake. Attempts should be made to verify this information.

27. Was the probationer under the influence of alcohol and/or illegal drugs at the time of the current offense? Enter a "1" if the probationer was under the influence of alcohol and/or illegal drugs or a "2" if there was no known alcohol abuse or drug use.

The interview with the probationer may provide this information, but the arrest report and PSIR should be used to verify the information. SCS interviewing techniques are recommended for use in obtaining this information. Sample questions that could be used include: How did you decide to commit the current offense? Could you tell me about the circumstances that led up to the offense?

28. Number of times the probationer has participated in alcohol/drug abuse treatment. Indicate the number of times the probationer has received Outpatient or Inpatient Treatment. AA/NA meeting are not considered "outpatient" treatment. If treatment has never been received, enter a "0".

29. Has the probationer used illicit substances by injection (i.e., intravenously) during the past 12 months. Indicate whether the probationer has administered drugs by injection during the past 12 months. Injection refers to the administration of a substance into the body with a hypodermic needle.

30. Frequency of Alcohol Consumption during the past 12 months. Indicate the frequency with which the probationer has consumed alcohol during the past 12 months. Alcohol applies to beer, wine, rum, whiskey, wine coolers, etc.

1. Alcohol is not used regularly (e.g., tried it once, experimented with it, occasional use, special occasions, holidays),
2. Monthly,
3. Weekly,
4. 3 to 4 times a week, or
5. used on a daily basis.

31. Number of alcoholic Drinks Generally Consumed in One Sitting in the past 12 months. When the probationer drinks alcohol, indicate the number of drinks generally consumed during one drinking episode. If the probationer does not drink regularly (i.e., #30 = 1), enter "99" for not applicable.

32. Identify probationer's frequency pf illegal use of the following substances during the past 12 months. Indicate the frequency with which the probationer uses each of the illicit drugs listed.

1. The dug is not used regularly (e.g., tried it once, experimented with it, occasional use, special occasion, holidays),
2. Monthly,
3. Weekly,
4. 3 to 4 times a Week, or
5. used on a daily basis.

Cocaine/Crack are also called powder, snow or rock.
Marijuana/Hashish are also called pot, grass, and joints.
Opiates/Heroin also include methadone, morphine and codeine
Amphetamines/Met amphetamines are also called stimulants, speed and uppers.
Sedatives/Hypnotics include Barbiturates (e.g., Nembutal, Seconal) and Benzodiazepines (e.g., Xanax and Valium). They are also called tranquilizers and downers.
Inhalants can consist of spray paint, glue, gas etc.
Included in the Other category are Hallucinogens (e.g., LSD, PCP, peyote, mushrooms), steroids, and all other drugs that do not fit into the categories above.

Probation Sanctions

This Section is designed to gather information about special conditions of probation that were imposed on the probationer. The information reported may be obtained from the Conditions of Probation or departmental records. However, this section is not intended to capture all of the special conditions that can be imposed.

33. Program Placement. Enter the code next to the particular program that was imposed. Enter ONLY ONE program. If more than one program is imposed, choose the one the offender will enter first. For example, if a probationer is sentenced to a residential facility to be followed by Intensive Supervision Probation, enter a "4" for a residential placement. These program categories are not limited to CJAD defined programs.

1. No Applicable Programmatic Placement should be marked if the probationer is not placed into any of the listed programs.
2. Intensive Supervision Probation (ISP). A level of supervision for probationers with high risk and needs. The ISP officer is trained and experienced in working with higher risk offenders. Officers supervising

probationers on ISP supervise fewer probationers than in regular supervision (approximately 40 as opposed to 100), enabling the officer to provide an increased level of surveillance and supervision of each probationer.

3. Surveillance Probation. In the surveillance probation program, two probation officers typically share the responsibility of supervising no more than 25 probationers. More contact visits are made than in other levels of supervision.
4. Specialized Caseloads. The grouping of probationers who share the same type of problem for supervision by a probation officer experienced and trained in that problem area. A specialized caseload is usually limited to approximately 40 probationers per supervising officer.
5. Residential Placement refers to placing a probationer into a residential setting immediately following sentencing (e.g., inpatient treatment in a CCF, CCC or CRS). If the probationer is to spend time in jail prior to the residential placement, this code still applies. Do not include jail time as a condition of probation as a residential placement.
6. Substance Abuse Felony Punishment Facility involves placing a probationer in a SAFPF as an initial condition of probation.

34. Was the Programmatic Placement Court Ordered? Indicate whether the programmatic placement was court ordered in the conditions of probation. If item 33 equals “0”, this item should also be coded “0”.

35. For Non-Residential Placement (i.e., item 33 equal codes 0 - 3), indicate the number of face-to-face contacts the probationer will have with their officer each MONTH for the first six months of probation.

36. For Residential Placements (i.e., item 33 equals code 4), indicate the type of residential service area the probationer will enter. For combination facilities indicate the service are they will enter initially. This item is designed to gather information on the type of facility in which the probationer was placed. The facility can be any of the following:

Community Corrections Facility (CCF). A closely monitored residential setting which frequently includes treatment of a specific problem area for the offender. CCF’s encompass a variety of residential programs such as restitution centers, treatment centers, etc. CCFs are operated be a CSCD or through a contract arrangement with a CSCD.

Or

Contract Residential Services (CRS). Residential services that are contracted for on a fixed cost per bed per day basis. The residential services purchased address risk/needs of an identified target population.

Or

County Correctional Center (CCC). Residential facility authorized by the county and operated by the sheriff to house and provide work programs and counseling for eligible defendants and probationers or for probation violators to serve a term of confinement.

Enter a "0" if the probationer was not ordered into a residential facility (i.e., Item 33 equals codes 0 – 3) For all residential placements, enter a code from below that best describes the placement.

1. Restitution Center/RC. A community-based corrections facility which provides 24-hour close supervision and a highly structured environment for non-violent felony offenders. Probationers are confined to the center except to go to their place of employment, to perform community service work, or to attend education or rehabilitation programs.
2. Intermediate Sanction Facility/ISF. A facility which emphasizes short-term detention for probation violators and other offenders as deemed appropriate by local jurisdictions. Appropriate intervention programs and services are utilized as well.
3. Substance Abuse treatment Facility/SATF. A residential community corrections program, which provides 24-hour supervision and is designed specifically to treat offenders who engage in chemical abuse. Educational and vocational skills are also frequently included in the treatment programs.
4. Court Residential Treatment Center/CRTC. Provides 24 hour supervision and specialized treatment for offenders with problems such as drug or alcohol abuse, metal health deficiencies, or emotional disorders.
5. Local Boot Camp (non-State Boot Camp) and Custody Facility. Sentencing alternative for the young adult, first time offender, utilizing

a regimented supervision strategy along with other intervention programs.

6. Residential Facility for Mentally Impaired. Provides a structured environment and appropriate specialized services for the mentally ill, mentally retarded, and/pr mentally disabled offender.
7. Other. Any other facility type that does not fit into one of the above categories/

37. Sanctions Impose on the Probationer. This category is designed to capture some of the other sanctions that can be imposed on a probationer. Enter a "1" if the sanction was imposed, or a "2" if it was not. This does not include AA or NA meetings.

Case Classification Risk/Needs Assessment

The remaining questions on the data form are the Case Classification Risk/Needs Assessment items. The coded responses are not weighted and "raw" information is required for many of the questions. This is necessary in order to validate the assessment instrument. Be careful to use the codes provided, and NOT the weighted codes that are on the actual Case Classification Instrument.

The definitions for the items in this section are from the Training Manual in Case Classification written by the Texas Department of Criminal Justice, Community Justice Assistance Division, January 1991.

Case Classification Risk Assessment

The purpose of the Risk scale is to objectively measure public protection needs with regard to the probationer. In the CJAD Case Classification, "Risk" is defined as "the probationer's potential for further criminal activity". The public's need for protection with regard to probationers is measured as the potential for further criminal activity. In addition to subsequent offenses, felony or misdemeanor, criminal activity has been expanded to include absconding and other probation or parole violations.

In the CJAD Case Classification System, the Assessment is a process whereby the officer gathers relevant information concerning the probationer, makes professional judgments based on that information and encodes those judgments on Risk Needs scales. This information gathering process usually includes some of, or combinations of the following:

- Preparing or reviewing a Pre-Sentence Investigation Report; and

- Obtaining and reviewing other relevant reports (e.g., arrest reports, reports of prior criminal record, school records, employment evaluations, etc.);
- Interviewing the probationer.

The extent to which the above are used is typically left to the officer's professional judgment. Regardless of the extent of secondary information, a personal interview with the probationer is always necessary in order to make valid judgments about the probationer's views and attitudes.

Case Classification Risk Items

38. Number of Address Changes in the last 12 months. Determine the number of times that the probationer changed addresses during the last year, regardless of reason, and enter the number. If the probationer was temporarily away from his/her permanent address for brief periods, but maintained a permanent residence, do not count this as a change. However, if an address change was made, even for a "good" reason, it must be counted. If there were none, enter a "0"

39. Percentage of Time Employed in Last 12 Months. Of the time that society would expect the person to be working, what percentage if that time was the person working. If the person is retired, totally physically disabled, a homemaker, a full-time student, etc, and would not be expected by society to be working or to be seeking employment, enter "999" for not applicable. Otherwise, enter the percentage of time they were employed (e.g., 0, 25, 30, 50, 100 etc.).

40. Alcohol Usage. In the interview, determine whether or not the use of alcohol was involved or influenced criminal behavior during the current or any past offenses of the probationer.

1. If there is no use, or if the probationer issues the alcohol but there is no relationship with criminal behavior,
2. If there is some (probable) relationship, or
3. If there is a definite pattern of using alcohol and criminal activity by the probationer.

41. Drug Usage. Apply the instruction given for alcohol to other drugs. Get enough information during the interview to determine whether or not there is a relationship between drug use (even abuse of legal drugs) and criminal behavior. However, if mere possession of the drugs us illegal, consider such possession as a factor in weighing the relationship between drugs and criminal activity.

42. Attitude. Rate the attitude relative to the probationer's acceptance of responsibility for illegal behavior, the motivation to change and the receptiveness to assistance. If the probationer exhibits characteristics from more than one of the categories (e.g., "somewhat motivated to change" and "rationalizes behavior", choose the category which seems to be most characteristic of the probationer. Remember that ";" means "and/or".

The basis of comparison for this item should be the average probationer in your department, not necessarily on your current caseload.

1. Should be used for probationer who are similar to probationers you have known with "good" attitudes,
2. For the average probationer, and
3. For those probationers whose attitudes are similar to probationers you have known with "bad" attitudes are similar to probationers you have known with "bad" attitudes.

43. Age at first Adjudication of Guilt. "Adjudication" refers to a disposition by the criminal justice system that indicates or implies that the probationer was guilty of an offense. The disposition may be formal, such as regular or deferred adjudication probation, or it may be informal, such as a pretrial intervention/diversion programs or a prosecuting attorney's deferred prosecution program. Do not count in this definition pretrial release programs, which avoid jailing a probationer during the period between arrest and court disposition. "Offense" refers to all felonies and Class A and B misdemeanors.

In the case of a probationer with a juvenile offense history, the above definition of adjudication also applies, (i.e., a judicial decision resulting in placement of the juvenile on informal supervision, even though the court may not have made an official finding of guilt, should be counted). Only count these if the offense would have been an offense had the juvenile been an adult. Do not count juvenile matters as offenses (e.g., runaway, truancy, uncontrolled status, minor in possession alcohol, etc.).

Enter the age at which the probationer's first adjudication of guilt occurred. If the current offense is their first adjudication, enter their age on the date they were adjudicated. This item cannot be derived form the PSIR. Age at first conviction IS NOT the same as age at first adjudication.

44. Number of Prior Periods of Probation/Parole Supervision. Include juvenile as well as adult. Include informal as well as formal periods. Include deferred adjudication probation terms. Do not include the present probation in the calculation. This information should be derived form the PSIR. Enter the number of Prior Periods of Probation and/or Parole Supervision. If there are none, enter a "0".

45. Number of Prior Probation/Parole Revocations. Enter the number of revocations from both probation and parole. Only include dispositions on MTR's where the court actually revoked probation and imposed a sentence other than probation. If there are none, enter a "0".

46. Number of Prior Felony Adjudications of Guilt. Include juvenile. Use the sane definition of "adjudication" as is given above [variable 43]. Include successfully completed deferred adjudication probations even though the court has dismissed the case. This scale is meant to measure documentable repeated criminal behavior. A previously served probation is documentable evidence of an offense. Do not include the present offense in your calculation. Juvenile commitments to TYC should be included as a prior felony adjudication. Enter the number of Prior Felony Adjudications. If there were none, enter a "0".

47. Adult or Juvenile Adjudications for Burglary, Theft, Auto Theft, or Robbery. This is a Case Classification Risk Assessment variable that has been broken down to obtain "raw" information. Using the previous Case Classification definition of adjudicated [variable 43], enter a "1" if the probationer has ever been adjudicated for Burglary, theft, Auto Theft or Robbery. This includes Unlawful use of a Motor Vehicle. If the probationer ha never been adjudicated for these offenses, enter a "2".

48. Adult or Juvenile Adjudications for Worthless Checks or Forgery. This is a Case Classification Risk Assessment variable that has been broken down to obtain "raw" information. Use the previous Case Classification definition of adjudicated [variable 43], enter a "1" if the probationer has ever been adjudicated for these offense, enter a "2".

49. Adult or Juvenile Adjudication for Assaultive Offense within Last FIVE yrs. "Assaultive Offense" refers to any offense which involves the use of a weapon, physical force, or the threat of physical force. Exclude Class C misdemeanors (e.g., simple assault). "Assaultive is expanded to include offenses that cause a

great potential for bodily harm. For example, include arson where there was a potential for injury or death of another person.

In addition to assaultive sex offenses, include sex offenses by an adult against a child even though the record does not indicate that overt threats or force were used. Based on the above definition, enter a "1" if the probationer was adjudicated for an assaultive offense within the last 5 years, or a "2" if they were not.

Case Classification Needs Assessment
The purpose of the Probationer Needs Assessment is to measure the probationer's need for services. It is contrasted to the Risk assessment in that:

- it is more subjective in nature relying almost wholly on the officer's professional skills for eliciting information from and for observing the needs of the probationer;
- it measures he relative amount of intervention time the case will require based on the service needs of the probationer;
- it should impact on the amount of time and attention the officer devotes to building internal controls with regard to the specific problem areas that are identified on the needs scale; and
- the officer's impression of the importance of resolving the problem relative to the successful completion of probation.

After reviewing the available reports, interviewing the probationer, and contacting collateral sources of information, the officer should be ready to complete the Needs Assessment scale. It is suggested that the scale be completed as soon as possible after the interview with the probationer in order to not forget important relevant information.

The scale reviews eleven possible needs areas which research indicates are common among probationers. Each need area has three or four descriptive phrases, which generally may be interpreted as Strength, No Problem, Moderate Problem, or Serious Problem. There is also a twelfth item for the officer's overall impression of the probationer's needs.

When having difficulty deciding between the four choices, the officer should reflect on experience and ask: " In my experience, have probationers with indicators similar to those under consideration required my intervention? If so, have they required a moderate amount of ,y intervention time?" The answers to these questions should correspond with the rating, which the officer enters.

Following is a more complete list of probationer need indicators to assist the officer in rating the need items.

Officers have reported that, when a probationer perceives him/herself to have a problem, that the probationer usually does indeed have a problem. Therefore each section mentions the probationer's perception as an indicator. This perception can be discovered during an assessment interview of the probationer.

On the contrary, just because a probationer does not perceive a problem does not mean that the probationer does not have a problem. Therefore other reliable sources of information are listed.

Case Classification Need Items

50. Academic/Vocational Skills

Problem Indicators

- Probationer perceives self to have inadequate reading, writing, mathematical skills in order to satisfactorily adjust to every-day life.
- Lack of basic reading skills (e.g., cannot read probation conditions well enough to comprehend the basic meaning).
- Lack of basic writing skills (e.g., cannot satisfactorily fill out the basic probation questionnaire, cannot write parents' full names correctly).
- Lack of basic math skills (e.g., cannot tell time, cannot quickly add the numbers 25, 15, and 10 correctly; cannot correctly say how many halves are in a whole; difficulty remembering important dates, e.g., mother's birthday, etc.).
- Lack of basic verbal skills (e.g., has difficulty articulating thoughts, especially in complete and grammatically correct sentences; has difficulty pronouncing commonly known words correctly, etc.).
- Lack of ability for abstract reasoning (e.g., does not understand concepts such as "percentage", personality", "remorse", "cause and effect", etc.).
- Attend special education or special "resource" classes in school.
- Lack of high school diploma or GED.
- Lack of employment history.
- Poor motor skills (coordination).

51. Employment
Problem Indicators

- Probationer perceives self to have a problem in maintaining regular reasonable self-sustaining employment.
- Has been employed less that 90% of working life.
- Changes, quits or is fired from jobs frequently.
- Lack of motivation to sustain regular employment.
- Lack of ability (e.g., skills training, education) to sustain regular employment.
- Physical, emotional handicaps (e.g., depression, anxiety, low self-esteem, chemical abuse, phobias, stress, family disorganization).
- Present job dissatisfaction.
- Income insufficiency.

- Lack of job advancement (ability, motivation, or opportunity).
- Lack of career goals.
- Poor job performance (e.g., attendance, punctuality, quality and quantity of work, relationship with supervisor and coworkers, etc.).
- Real or perceived race, class, sex or other discrimination.
- Language barriers.

52. Financial Management
Problem Indicators
- Probationer perceives self to have a problem.
- Present offense (e.g., bad checks, forgery).
- Financial obligations, commitments or needs exceed income on a recurring basis.
- Income is inadequate for reasonable sustenance.
- Lack of any system (i.e., budget) for managing finances.
- No reasonable financial security (e.g., relatives, friends).
- No financial support system (e.g., relatives, friends).
- Poor credit rating (or no established credit).
- Frequent moves (e.g., evictions, avoiding creditors or landlords).
- Prior Bankruptcy pr garnishment.
- Poor math skills (relate to Academic-Vocational Skills, p.15).
- Poor planning skills; lack of goal directedness.
- Poor prioritization (e.g., excessive spending on entertainment, gifts, luxuries, etc.).
- Chemical or gambling addictions.
- Disruption of utility services (i.e., non-payment).

53. Marital/Family Relationships
Problem Indicators
- Probationer perceives a problem.
- Family/Spouse perceives a problem.
- Offense was against a family member/spouse.
- In conversation, probationer indicates anger, disappointment, sadness and anxiety with reference to family/spouse.
- In conversation, family/spouse are noticeably unmentioned.
- Probationer expresses no “need” for familial relationships or ties/
- Probationer is/r perceives self to be emotionally damaged by family history problems (e.g., chemical abuse, physical or psychological

abuse, emotional instability, financial insufficiency, marital discord or violence, etc.).

- Other family member or spouse have been/are involved in criminal behavior (or otherwise manifest anti-social attitudes).
- Family members are rejecting of the probationer (or probationer perceives rejection).
- Officer observes strained (or otherwise problematice0 interaction between probationer and family members/spouse.

54. Companions
Problem Indicators

- Probationer perceives a problem.
- Family/Spouse perceives a problem.
- Offense(s) committed with co-defendants
- Companions have been in trouble with the law.
- Companions are chemical abusers.
- Companions do not work.
- Probationer has no close friends.
- Probationer indicated no need for friends (e.g., "I'm a loner").

55. Emotional Stability
Problem Indicators
Anger, fear, guilt anxiety and grief are the major emotions that cause difficulties; they can be grouped into those which are internalized (depression, anxiety) and those, which are externalized (acting-out behaviors and volatile situations).

- Characteristics of Mild and Moderate Depression:
  Loneliness
  Hopelessness
  Isolation and withdrawal from social contact. Self-recrimination and guilt
  Feelings of worthlessness
  Low self-esteem
  Pessimism
  Lack of Energy
  Boredom
  Somatic Complaints

- Characteristics of Severe Depression:
  (more pronounced characteristics listed above, plus these:)
  Reality contact remarkable impaired
  Disturbances in thinking – delusions (false beliefs). Hallucinations – perception of strange objects and events without any appropriate external sensory stimuli, (e.g., hearing voices).
  Little insight into the nature of his/her/behavior. Thoughts, threats, or attempts at suicide.

- Characteristics of Anxiety:
  Relatively constant state of tension
  Restlessness and diffuse uneasiness.
  Generalized irritability
  Difficulty in concentrating and making decisions
  Fear of making mistakes
  Occasional insomnia
  Chronic state of alarm and mobilization

- Characteristics of Acting-Out Behaviors:
  Inadequate conscience development
  Lack of anxiety or guilt
  Inability to profit from mistakes
  Impulsivity
  Irresponsibility
  Low frustration tolerance
  Poor judgment
  Defective social relationships
  Ability to put up a good front to impress and exploit others
  Authority problems
  Ability to quickly rationalize and protect the blame on others.

- Characteristics of Potential Volatile Situations:
  Drinking probationer
  The armed probationer
  The out-of-control probationer
  Volatile family quarrels
  Officer-induced stress (apprehensions and searches).

- Other indicators

History of prescribed psychotropic medication usage:
"Zine" drugs (e.g., thorazine, stelazine: for management of psychotic disorders).
Lithium (for manic depressives)
Proxlyxn (for management of psychotic disorders)
Navane (for management of psychotic disorders)
Mellaril (for management of psychotic disorders)
Cogentin (management of parkinsonism)
History of inpatient/out-patient psychiatric treatment or psychotherapy
Previous serious head injury

56. Alcohol Usage Problems
Problem Indicators
[In those cases using alcohol evaluations as required by law, i.e., DWI, use the indicators from those evaluations.]

- Probationer states she/he has a problem.
- Alcohol related offense/offense history.
- BAC level above .10%
- Emotional Problems
  Anxiety (e.g., nervousness, restlessness, agitation, "highstrung", tense, bored)
  Depression (e.g., sadness, unhappiness, moodiness, self-pity)
  General dissatisfaction (e.g., boredom, vague wishes for life to be different)
  Worry, fear
  Resentment (especially of events which others take in stride)
  Self-deprecation (feelings of worthlessness, abnormal guilt)
  Sleeping problems
  Inability to cope (e.g., irritable, tense, desperation, dependency)

- Marital/Family problems (e.g., contemplations/threats of divorce, relatives/spouse dissatisfied with probationer)
- Poor work history (e.g., period of unemployment, history of being fired, absenteeism, tardiness, friction with fellow-workers, etc.)
- Financial problems
- Interpersonal relationship problems (e.g., getting along with others, loneliness, etc.)
- Previous treatment for alcohol problem
- Poor medical history (especially liver or kidney problems)

- Poor driving record
- Recent stressful event (e.g., divorce, death in the family, job loss, serious injury or illness to self or close family member)
- Parent had a drinking problem
- Abnormal drinking behavior (e.g., blackouts; drinking "to make friends"; to cope with problems; "for energy or get started")

57. Other Drug Usage Problems
Indicators of a Problem
- Almost all of the above alcohol indicators
- Mood swings
- Amotivational behavior (lack of motivation to fulfill life goals, desires, needs, etc.)
- Volatility (easy to anger, quick and unreasonable temper flare-ups, easy loss of control over anger, etc.)
- Poor hygiene and appearance
- Unexplained scars and marks.
- Dilated/constricted pupils
- Frequent absenteeism from work, school
- Sporadic work and/or school history
- Projection of blame
- Tendency to "nod out" as if to go in and out of drowsy sleep
- Hyperactivity
- Profuse perspiration

58. Mental ability
Problem Indicators
- Impairment of one or more aspects of adaptive behavior:

    Maturation – acquisition of early development skills.
    Learning ability – facility with which knowledge is acquired as a function of experience.
    Social adjustment – degree to which an individual is able to maintain himself independently in the community and in gainful employment; ability to meet and conform to other personal and social responsibilities and standards set by the community (Adaptive Behavior)
- All of the indicators under "Academic-Vocational" also apply here (e.g., lack of basic reading, writing, math, verbal and abstract reasoning

ability; attendance of special education classes; lack of vocational skills; no high school diploma or GED; poor motor skills)

- Lack of ability for FORESIGHT, INSIGHT AND HINDSIGHT
- Lack of ability for appropriate dress, grooming and personal hygiene
- Socially inept (e.g., lack of knowledge/skills with regard to appropriate etiquette
- Poor motor skills
- Sub-average general intellectual functioning.

Approximately 3% of the population is in the United States is considered retarded. This population can be divided into the following categories:
Borderline ("slow learners") – IQ of 70-80 +; capable of independent and productive lives, with assistance in specialized areas
Mild (educable) – IQ of 50-69; have difficulty with tasks requiring reasoning and/or verbal facility, but can meet routine, uncomplicated demands
Moderate (trainable – IQ 35-49; capable of developing self-help, self-protection; have limited skills; can contribute partially to their self-support is given adequately protected stimulating environment, e.g., sheltered workshop)
Severe – IQ of 20-34; need constant care or supervision
Profound – IQ of 0-19; rarely found outside of institutional settings

59. Health
Problem Indicators

- Does the probationer perceive a problem in this area?
- Poor appearance (e.g., poor complexion, circles under eyes, listlessness, poor posture, etc.)
- Work (school) attendance
- Previous history of medical problems or hospitalization
- Dental problems
- Hygiene problems
- Current/past use/abuse of medication or illegal drugs
- Poor eating, sleeping, exercising habits

60. Sexual behavior
Problem Indicators

- Offense is a sexual offense (if so, do not use “O” on the Needs Assessment); [Either offense for which actually convicted, or facts behind the offense for which convicted]
- Prior record includes sex offense

  Note: If the probation officer has obtained information about problem indicators “c” through “l” in regard to the probationer, the officer should first consider whether the sexual attitudes of the probationer relate to his/her criminal activity and then decide whether or not to conduct a sexual attitudes interview.

  If the Officer decides to conduct such an interview, he should include a disclaimer to the probationer that the certain indicators have been observed, that he/she would like to conduct a sexual attitudes interview and that resources are available to provide help to the probationer.

  The officer should make it very clear to the probationer that this part of the interview is entirely voluntary on the part of the probationer. If, after this is explained to the probationer, he/she agrees to be interviewed on the part of the probationer should be documented in the case file.

- Previous treatment for sexual (or related) problem
- Probationer voluntarily relates information about a sexual problem.
- Probationer voluntarily discloses that he/she was a victim of sexual abuse as a child.
- The probationer voluntarily states that he/she was reared in an extremely rigid environment where sexual curiosity and expression were not allowed.
- The probationer voluntarily states that he/she has a reluctance to be involved in adult relationships.
- The probationer voluntarily talks about a severe fear and/or hatred of the opposite sex
- The probationer voluntarily related that he/she has an extreme inability to talk about sex with an appropriate potential sexual partner.
- The probationer manifests an extreme casualness in voluntarily discussing bizarre sexual conduct.

- The probationer manifests denial of sexual feelings or needs; or wanting sex not to be a part of his/her life.
- The probationer voluntarily related irrational belief systems about sex (e.g., that sex with children should not e a crime; that "rape" is usually initiated by the victims; women secretly want to be "raped"; "women who wear makeup and sexy clothes are fair game"; "women who say 'no' really don't mean it"; "hookers deserve what they get").

61. P.O.'s Impression of Probationer's Needs. Rate this item based on your overall impression of the probationer's problems:

1. Probationer is well adjusted, likely to require no officer intervention time,
2. Doing quite well at the present time and likely to require little intervention time,
3. The average probationer with the average probationer's problems, or
4. The multi-problem probationer who is likely to require a great deal of the officer's time.

Appendix B: Felony Cohort Follow-up Data Form Questions

Felony Cohort One Year Follow-up Data Form Questions
October 1993 – October 1994

A. Current status of probationer as reported in Section I.A. of the Monthly Community and Corrections Report (MCMSCR) for October 31, 1994:

1. Under direct supervision in this CSCD (G to question C)
2. Under indirect supervision (Indicate the reason below and go to question C)
    - Transferred to another CSCD (Date transferred)
    - Transferred out of state
    - Absconded
    - Incarcerated in jail
    - Incarcerated in a State Jail
    - Incarcerated in prison
    - In a Substance Abuse Felony Punishment Facility (SAFPF)
    - Other
3. No longer under supervision (Date terminated)

(Go to question B)

B. Type of supervision termination during the follow-up period as reported in Section II.B. of the MCSCR: (check one)
1. Expired /early termination
2. Revoked in jail
3. Revoked to TDCJ (Do not include shock incarceration or State Boot Camp.)
4. Revoked to shock incarceration
5. Revokes to State Boot Camp
6. Death

**If you answered 4 or 5 in question B, provide the information below then proceed to question C. **

Date temporarily terminated
Date of return or expected return

C. List the required information for each arrest for a NEW SEPARATE OFFENSE that occurred from October 1993 through October 1994. Report only the most severe new offense for each arrest event. Do not include arrests prior to October 1993, arrests after October 1994, arrests for Class C misdemeanors, or arrests for MTR's

New Arrest Grid

Date Arrested	Offense (be specific)	Level (M,S,F)

Level: M – Misdemeanor (Class A and B only; do not include Class C misdemeanors)

S – State Jail Felony

F – Felony (1^{st}, 2^{nd} or 3^{rd} degree)

D. Was a Motion to Revoke Probation FILED between October 1993 and October 1994? If more than one MTR was filed, report only on the MOST RECENT one.

1. Yes (Date Filed)

If more than one MTR was filed, report the number filed:

Please check the alleged violation(s):

Committed NEW offense (do not include positive UA's or other violations of probation terms here.)

Failure to report

Failure to pay fines, fees, etc.

Drug/Alcohol use

Refused drug/alcohol testing

Failure to participate in court ordered treatment supervision terms

Association prohibited by supervision terms

Unsatisfactory employment

Other

(Go to question E)

2. No MTR was filed (Go to question F)

E. What was the result of the MTR? (check one)

1. Probation modification
2. Deferred to adjudicated (SectionII.A.4 on MCSCR)
3. Dismissed
4. Probation revoked
5. MTR still pending

F. Strategy for Case Supervision (SCS) level: (check one)

1. SIS
2. SIT
3. CC
4. ES
5. LS
6. Unavailable or not completed

Total number of TESTS conducted from October 1993 through October 1994:

Of these, how many tests were positive:

H. During the one year period from October 1993 through 1994, was the probationer employed: (check one)

1. Less than 50% of the year
2. More than 50% of the year
3. Not applicable.

Felony Cohort Second Year Follow-up Data Form Questions
October 1994 – October 1995

A. Status of offender as of October 1995:

1. Under direct supervision in this CSCD (G to question C)
2. Under indirect supervision (Indicate the reason below and go to question C)
   - Transferred to another CSCD (Date transferred)
   - Transferred out of state
   - Absconded
   - Incarcerated in jail
   - Incarcerated in a State Jail
   - Incarcerated in prison
   - In a Substance Abuse Felony Punishment Facility (SAFPF)
   - Other
3. No longer under supervision (Date terminated)

(Go to question B)

B. Type of supervision termination during the follow-up period as reported in Section II.B. of the MCSCR: (check one)

1. Expired /early termination
2. Revoked in jail
3. Revoked to TDCJ (Do not include shock incarceration or State Boot Camp.)
4. Revoked to shock incarceration
5. Revokes to State Boot Camp
6. Death

**If you answered 4 or 5 in question B, provide the information below then proceed to question C. **

Date temporarily terminated
Date of return or expected return

C. List the required information for each arrest for a NEW OFFENSE that occurred from October 1994 through October 1995. Report only the most severe new offense for each arrest event. Do not include arrests prior to October 1994, arrests after October 1995, arrests for Class C misdemeanors, or Motion to Revoke community supervision.

New Arrest Grid

Date Arrested	Offense (be specific)	Level (M,S,F)

Level: M – Misdemeanor (Class A and B only; do not include Class C misdemeanors)

S – State Jail Felony

F – Felony (1st, 2nd or 3rd degree)

D. Was a Motion to Revoke community supervision FILED between October 1994 and October 1995? If more than one MTR was filed, report only on the MOST RECENT one.

1. Yes (Date Filed)

If more than one MTR was filed, report the number filed:

Please check the alleged violation(s):

Committed NEW offense (do not include positive UA's or other violations of probation terms here.)

Failure to report

Failure to pay fines, fees, etc.

Drug/Alcohol use

Refused drug/alcohol testing

Failure to participate in court ordered treatment supervision terms

Association prohibited by supervision terms

Unsatisfactory employment

Other

(Go to question E)

2. No MTR was filed (Go to question F)

E. What was the result of the MTR? If no MTR was filed, mark "6. No MTR was filed".

1. Probation modification
2. Deferred to adjudicated (SectionII.A.4 on MCSCR)
3. Dismissed
4. Probation revoked
5. MTR still pending
6. No MTR was filed

F. During the one year period from October 1994 through 1995, was the probationer employed:

1. Less than 50% of the year
2. More than 50% of the year
3. Not applicable (student, homemaker, retired or disabled)
4. Unknown

G. Place a mark by the residential facilities in which the offender was ordered to participate as a condition of community supervision. Include orders for the original and modified conditions of supervision for the offender's October 1993 placement on felony community supervision.

Intermediate Sanction Facility (ISF)
Court Residential Treatment Center (CRTC)
Residential Facility for the Mentally Impaired
Restitution Center
Substance Abuse Treatment Facility (SATF)
Local Boot Camp (not state Boot Camp)
Substance Abuse Felony Punishment Facility (SAFPF)
Other

Felony Cohort Third Year Follow-up Data Form Questions
October 1995 – October 1996

A. Status of offender as of October 31, 1996:

1. Under direct supervision in this CSCD (G to question C)
2. Under indirect supervision (Indicate the reason below and go to question C)
   - Transferred to another CSCD (Date transferred)
   - Transferred out of state
   - Absconded
   - Incarcerated in jail
   - Incarcerated in a State Jail
   - Incarcerated in prison
   - In a Substance Abuse Felony Punishment Facility (SAFPF)
   - Other
3. No longer under supervision (Date terminated)

(Go to question B)

B. Mark the type of supervision termination. If the offender's supervision was not terminated, mark "9. Not Terminated".

1. Expired /early termination
2. Revoked in jail
3. Revoked to TDCJ (Do not include shock incarceration or State Boot Camp.)
4. Revoked to shock incarceration
5. Revokes to State Boot Camp
6. Death

**If you answered 4 or 5 in question B, provide the information below then proceed to question C. **

Date temporarily terminated
Date of return or expected return

C. List the required information for each arrest for a NEW OFFENSE that occurred from October 1995 through October 1996. Report only the most severe new offense for each arrest event. Do not include arrests prior to October 1995, arrests after October 1996, arrests for Class C misdemeanors, or Motion to Revoke community supervision.

New Arrest Grid

Date Arrested	Offense (be specific)	Level (M,S,F)

Level: M – Misdemeanor (Class A and B only; do not include Class C misdemeanors)

S – State Jail Felony

F – Felony (1st, 2nd or 3rd degree)

D. Was a Motion to Revoke Probation FILED between October 1996 and October 1996? If more than one MTR was filed, report only on the MOST RECENT one.

1. Yes (Date Filed)

If more than one MTR was filed, report the number filed:

Please check the alleged violation(s):

Committed NEW offense (do not include positive UA's or other violations of probation terms here.)

Failure to report

Failure to pay fines, fees, etc.

Drug/Alcohol use

Refused drug/alcohol testing

Failure to participate in court ordered treatment supervision terms

Association prohibited by supervision terms

Unsatisfactory employment

Other

(Go to question E)

2. No MTR was filed (Go to question F)

E. What was the result of the MTR? If no MTR was filed, mark “6. No MTR was filed”.

1. Probation modification
2. Deferred to adjudicated (SectionII.A.4 on MCSCR)
3. Dismissed
4. Probation revoked
5. MTR still pending
6. No MTR was filed

F. During the one year period from October 1995 through 1996, was the offender employed:

1. Less than 50% of the year
2. More than 50% of the year
3. Not applicable. (student, retired homemaker, disabled)
4. Unknown

Appendix C: Reliability Analysis Data Results

R E L I A B I L I T Y   A N A L Y S I S -- S C A L E   (A L P H A)
Education Variables – Original Weighting

		Mean	Std Dev	Cases
1.	HS_GED	.4946	.5000	3405.0
2.	H_GRADE	10.4352	2.6170	3405.0
3.	N50	1.0026	.9643	3405.0

Correlation Matrix

	HS_GED	H_GRADE	N50
HS_GED	1.0000		
H_GRADE	.6059	1.0000	
N50	-.7076	-.6066	1.0000

N of Cases = 3405.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	11.9325	5.8703	2.4229	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
HS_GED	11.4379	4.7168	.4159	.5501	-1.2982
H_GRADE	1.4972	.4974	-.3998	.4305	-2.7438
N50	10.9298	8.6846	-.6588	.5507	.3652

Reliability Coefficients   3 items

Alpha = -.5515   Standardized item alpha = -1.3422

R E L I A B I L I T Y   A N A L Y S I S   -- S C A L E   (A L P H A)

Education Variables - Z Score

		Mean	Std Dev	Cases
1.	ZH_GRADE	.0000	1.0000	3405.0
2.	ZHS_GED	.0000	1.0000	3405.0
3.	ZN50_2	.0000	1.0000	3405.0

Correlation Matrix

	ZH_GRADE	ZHS_GED	ZN50_2
ZH_GRADE	1.0000		
ZHS_GED	.6059	1.0000	
ZN50_2	.6066	.7076	1.0000

N of Cases = 3405.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	.0000	6.8404	2.6154	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZH_GRADE	.0000	3.4153	.6561	.4305	.8288
ZHS_GED	.0000	3.2133	.7328	.5501	.7552
ZN50_2	.0000	3.2118	.7334	.5507	.7546

Reliability Coefficients   3 items

Alpha =   .8421   Standardized item alpha =   .8421

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Employment Variables - Original Weighting

		Mean	Std Dev	Cases
1.	R39	59.1951	34.9676	2922.0
2.	EMPLOY_2	1.7293	1.3790	2922.0
3.	N51_2	1.6612	.9359	2922.0
4.	N52_2	1.2040	.7763	2922.0

Correlation Matrix

	R39	EMPLOY_2	N51_2	N52_2
R39	1.0000			
EMPLOY_2	.6273	1.0000		
N51_2	.6949	.7027	1.0000	
N52_2	.3509	.3378	.4537	1.0000

N of Cases = 2922.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	63.7895	1354.3354	36.8013	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
R39	4.5945	6.5767	.6971	.5222	.7290
EMPLOY_2	62.0602	1289.4014	.6365	.5312	.0758
N51_2	62.1283	1305.5046	.7091	.6295	.0922
N52_2	62.5856	1333.3013	.3604	.2085	.1213

Reliability Coefficients   4 items

Alpha =   .1262   Standardized item alpha =   .8173

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Employment Variables – Z Scores

		Mean	Std Dev	Cases
1.	ZEMPLOY_	.0863	1.0468	2922.0
2.	ZN51_2	-.0324	1.0559	2922.0
3.	ZN52_2	-.0117	1.0106	2922.0
4.	ZR39	.0000	1.0000	2922.0

Correlation Matrix

	ZEMPLOY_	ZN51_2	ZN52_2	ZR39
ZEMPLOY_	1.0000			
ZN51_2	.7027	1.0000		
ZN52_2	.3378	.4537	1.0000	
ZR39	.6273	.6949	.3509	1.0000

N of Cases =   2922.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	.0423	10.9580	3.3103	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZEMPLOY_	-.0440	6.2811	.6825	.5312	.7510
ZN51_2	.0747	5.8542	.7807	.6295	.7013
ZN52_2	.0540	7.5444	.4309	.2085	.8617
ZR39	.0423	6.4682	.6861	.5222	.7505

Reliability Coefficients   4 items

Alpha =   .8184   Standardized item alpha =   .8173

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Employment Variables – Financial Management Removed

		Mean	Std Dev	Cases
1.	ZEMPLOY_	.0863	1.0468	2922.0
2.	ZN51_2	-.0324	1.0559	2922.0
3.	ZR39	.0000	1.0000	2922.0

Correlation Matrix

	ZEMPLOY_	ZN51_2	ZR39
ZEMPLOY_	1.0000		
ZN51_2	.7027	1.0000	
ZR39	.6273	.6949	1.0000

N of Cases = 2922.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	.0540	7.5444	2.7467	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZEMPLOY_	-.0324	3.5822	.7234	.5311	.8193
ZN51_2	.0863	3.4090	.7747	.6002	.7705
ZR39	.0540	3.7638	.7166	.5210	.8253

Reliability Coefficients   3 items

Alpha =   .8617   Standardized item alpha =   .8617

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Static Substance Abuse Variables -- Unweighted

		Mean	Std Dev	Cases
1.	INFLAD	.3816	.4859	3396.0
2.	ADTMTIN	.0913	.2881	3396.0
3.	R40	1.7161	.8356	3396.0
4.	R41	1.7241	.8661	3396.0

Correlation Matrix

	INFLAD	ADTMTIN	R40	R41
INFLAD	1.0000			
ADTMTIN	.2014	1.0000		
R40	.6616	.1934	1.0000	
R41	.2216	.1907	.1559	1.0000

N of Cases = 3396.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	3.9131	2.9612	1.7208	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
INFLAD	3.5315	1.9451	.5756	.4552	.3192
ADTMTIN	3.8218	2.6336	.2616	.0691	.5407
R40	2.1970	1.4071	.4318	.4415	.3603
R41	2.1890	1.7039	.2244	.0714	.6045

Reliability Coefficients 4 items

Alpha = .5376 Standardized item alpha = .5976

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Static Substance Abuse Variables – Z Scores

		Mean	Std Dev	Cases
1.	ZINFLAD	-.0009	.9998	3396.0
2.	ZADTMTIN	.0000	1.0000	3396.0
3.	ZR40	-.0020	.9989	3396.0
4.	ZR41	-.0005	.9995	3396.0

Correlation Matrix

	ZINFLAD	ZADTMTIN	ZR40	ZR41
ZINFLAD	1.0000			
ZADTMTIN	.2014	1.0000		
ZR40	.6616	.1934	1.0000	
ZR41	.2216	.1907	.1559	1.0000

N of Cases = 3396.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	-.0034	7.2425	2.6912	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZINFLAD	-.0025	4.0758	.5368	.4552	.3971
ZADTMTIN	-.0034	5.0722	.2598	.0691	.6139
ZR40	-.0014	4.2255	.4917	.4415	.4355
ZR41	-.0029	5.1079	.2513	.0714	.6198

Reliability Coefficients   4 items

Alpha =   .5976   Standardized item alpha =   .5976

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Dynamic Substance Variables -- Unweighted

		Mean	Std Dev	Cases
1.	CRACK	.1641	.3704	3401.0
2.	MARJ	.2440	.4296	3401.0
3.	ANY_DRUG	.0635	.2439	3401.0
4.	INJECT	.0465	.2105	3401.0
5.	N56	1.7268	.7733	3401.0
6.	N57	1.5584	.7520	3401.0
7.	ALC12MO	2.2438	1.1372	3401.0

Correlation Matrix

	CRACK	MARJ	ANY_DRUG	INJECT	N56
CRACK	1.0000				
MARJ	.3324	1.0000			
ANY_DRUG	.2395	.1973	1.0000		
INJECT	.2870	.1608	.4294	1.0000	
N56	.1904	.2131	.1060	.0924	1.0000
N57	.5950	.5686	.3486	.3155	.2826
ALC12MO	.2262	.2503	.0905	.0841	.6309

	N57	ALC12MO
N57	1.0000	
ALC12MO	.2487	1.0000

N of Cases =   3401.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	6.0470	6.8272	2.6129	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
CRACK	5.8830	5.8651	.4598	.3727	.6384
MARJ	5.8030	5.7129	.4527	.3370	.6333
ANY_DRUG	5.9835	6.4209	.2805	.2350	.6725
INJECT	6.0006	6.4947	.2686	.2281	.6756
N56	4.3202	4.4701	.5380	.4161	.5868
N57	4.4887	4.5811	.5221	.5507	.5931
ALC12MO	3.8033	3.4734	.4861	.4189	.6510

Reliability Coefficients   7 items

Alpha =   .6741   Standardized item alpha =   .7318

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Dynamic Substance Abuse Variables – Z Scores

		Mean	Std Dev	Cases
1.	ZCRACK	.0001	1.0001	3401.0
2.	ZMARJ	.0002	1.0001	3401.0
3.	ZANY_DRU	.0001	1.0001	3401.0
4.	ZINJECT	.0001	1.0003	3401.0
5.	ZALC12MO	.0006	.9999	3401.0
6.	ZN56	.0007	1.0002	3401.0
7.	ZN57	.0005	1.0003	3401.0

Correlation Matrix

	ZCRACK	ZMARJ	ZANY_DRU	ZINJECT	ZALC12MO
ZCRACK	1.0000				
ZMARJ	.3324	1.0000			
ZANY_DRU	.2395	.1973	1.0000		
ZINJECT	.2870	.1608	.4294	1.0000	
ZALC12MO	.2262	.2503	.0905	.0841	1.0000
ZN56	.1904	.2131	.1060	.0924	.6309
ZN57	.5950	.5686	.3486	.3155	.2487

	ZN56	ZN57
ZN56	1.0000	
ZN57	.2826	1.0000

N of Cases = 3401.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	.0024	18.7845	4.3341	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZCRACK	.0022	14.0422	.4992	.3727	.6871
ZMARJ	.0022	14.3383	.4550	.3370	.6977
ZANY_DRU	.0023	14.9606	.3650	.2350	.7186
ZINJECT	.0022	15.0443	.3531	.2281	.7213
ZALC12MO	.0017	14.7227	.3990	.4189	.7108
ZN56	.0016	14.7523	.3946	.4161	.7118
ZN57	.0019	13.0641	.6527	.5507	.6487

Reliability Coefficients 7 items

Alpha = .7318 Standardized item alpha = .7318

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

All Substance Abuse Variables – Z Score

Correlation Matrix

	ZCRACK	ZMARJ	ZANY_DRU	ZINJECT	ZALC12MO
ZCRACK	1.0000				
ZMARJ	.3311	1.0000			
ZANY_DRU	.2389	.1944	1.0000		
ZINJECT	.2868	.1573	.4235	1.0000	
ZALC12MO	.2252	.2488	.0877	.0808	1.0000
ZN56	.1897	.2121	.1035	.0892	.6299
ZN57	.5944	.5671	.3464	.3128	.2471
ZINFLAD	.2407	.1815	.1656	.1549	.4316
ZADTMTIN	.2390	.1281	.2044	.2191	.1489
ZR40	.1636	.1623	.1026	.0779	.5547
ZR41	.5058	.4660	.2828	.2405	.2055

	ZN56	ZN57	ZINFLAD	ZADTMTIN	ZR40
ZN56	1.0000				
ZN57	.2819	1.0000			
ZINFLAD	.5832	.2783	1.0000		
ZADTMTIN	.2203	.2559	.2026	1.0000	
ZR40	.8180	.2085	.6623	.1933	1.0000
ZR41	.1751	.7672	.2221	.1907	.1557

	ZR41
ZR41	1.0000

Statistics for	Mean	Variance	Std Dev	Variables
Scale	-.0126	42.2178	6.4975	11

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZCRACK	-.0120	35.1985	.5076	.3861	.7963
ZMARJ	-.0119	35.9290	.4414	.3380	.8027
ZANY_DRU	-.0108	36.9448	.3532	.2387	.8110
ZINJECT	-.0104	37.1662	.3347	.2343	.8127
ZALC12MO	-.0116	35.5066	.4795	.4257	.7990
ZN56	-.0107	34.6286	.5608	.7276	.7911
ZN57	-.0123	33.5135	.6659	.7145	.7805
ZINFLAD	-.0115	34.9814	.5274	.4719	.7944
ZADTMTIN	-.0118	37.2257	.3277	.1262	.8134
ZR40	-.0108	35.0330	.5231	.7265	.7948
ZR41	-.0122	34.8051	.5437	.6005	.7927

Reliability Coefficients 11 items

Alpha = .8141 Standardized item alpha = .8140

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
Current Offense – Unstandardized variables

		Mean	Std Dev	Cases
1.	OFF_TYPE	2.5730	.9308	3405.0
2.	OF_LEVEL	2.3771	.7396	3405.0
3.	LEGSTAT	.1025	.3033	3405.0

Correlation Matrix

	OFF_TYPE	OF_LEVEL	LEGSTAT
OFF_TYPE	1.0000		
OF_LEVEL	.0010	1.0000	
LEGSTAT	.0864	.0712	1.0000

N of Cases = 3405.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	5.0526	1.5874	1.2599	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
OFF_TYPE	2.4796	.6709	.0329	.0075	.0953
OF_LEVEL	2.6755	1.0072	.0224	.0051	.0969
LEGSTAT	4.9501	1.4147	.1119	.0125	.0019

Reliability Coefficients 3 items
Alpha = .0776 Standardized item alpha = .1434

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Criminal History Variables – All variables in z scores

		Mean	Std Dev	Cases
1.	ZGANG	-.0012	.9972	3397.0
2.	ZJUVENIL	-.0008	.9991	3397.0
3.	ZR47	.0009	1.0001	3397.0
4.	ZR49	-.0003	.9997	3397.0
5.	ZINCID	.0004	1.0008	3397.0
6.	ZINCJAIL	-.0008	.9995	3397.0
7.	ZINCTYC	.0002	1.0007	3397.0
8.	ZFARRPRO	.0007	1.0011	3397.0
9.	ZFARRPER	-.0007	.9985	3397.0
10.	ZFARRDRU	.0005	1.0010	3397.0
11.	ZFARRTLT	-.0005	.9986	3397.0
12.	ZFCONPRO	.0005	1.0011	3397.0
13.	ZFCONTLT	-.0002	1.0000	3397.0
14.	ZMARRTLT	.0006	1.0008	3397.0
15.	ZMCONTLT	.0004	1.0008	3397.0
16.	ZR44	.0002	1.0008	3397.0
17.	ZFELPROB	-.0001	1.0002	3397.0
18.	ZR45	.0006	1.0009	3397.0
19.	ZFREC	.0004	1.0011	3397.0
20.	ZR46	.0001	1.0003	3397.0

Correlation Matrix

	ZGANG	ZJUVENIL	ZR47	ZR49	ZINCID
ZGANG	1.0000				
ZJUVENIL	.1865	1.0000			
ZR47	.0810	.2268	1.0000		
ZR49	.0789	.1194	-.0566	1.0000	
ZINCID	-.0179	.0796	.1697	.0123	1.0000
ZINCJAIL	-.0322	.0730	.0453	.0666	.1694
ZINCTYC	.1311	.3937	.1459	.0628	.0655
ZFARRPRO	.0180	.0936	.2444	.0104	.4515
ZFARRPER	-.0130	.0581	.0513	.1280	.2511
ZFARRDRU	-.0186	.0575	.0435	-.0152	.2920
ZFARRTLT	-.0033	.1043	.1683	.0379	.5215
ZFCONPRO	-.0082	.0767	.2413	.0039	.5560
ZFCONTLT	-.0207	.0765	.1913	.0186	.6913
ZMARRTLT	-.0277	.0554	.0585	.0953	.2122
ZMCONTLT	-.0482	.0505	.0463	.0811	.1949
ZR44	.0086	.2128	.1657	.0701	.4575
ZFELPROB	-.0151	.0835	.1889	.0190	.6981
ZR45	.0131	.1489	.1022	.0385	.4062
ZFREC	-.0036	.0968	.1369	.0041	.6853
ZR46	.0317	.2296	.2194	.0575	.6054

Correlation Matrix

	ZINCJAIL	ZINCTYC	ZFARRPRO	ZFARRPER	ZFARRDRU
ZINCJAIL	1.0000				
ZINCTYC	.0324	1.0000			
ZFARRPRO	.1384	.0834	1.0000		
ZFARRPER	.1281	.0168	.2073	1.0000	
ZFARRDRU	.1020	.0478	.3201	.1282	1.0000
ZFARRTLT	.1979	.0821	.8057	.5384	.6394
ZFCONPRO	.1365	.1016	.7733	.1365	.2114
ZFCONTLT	.2150	.1028	.6647	.2732	.4401
ZMARRTLT	.5481	.0221	.2018	.2121	.1423
ZMCONTLT	.6196	.0128	.1489	.1695	.0904
ZR44	.2972	.1818	.4350	.2177	.2538
ZFELPROB	.2011	.1061	.6511	.2611	.4149
ZR45	.3439	.2150	.3256	.1388	.1565
ZFREC	.1468	.0917	.5371	.1856	.2519
ZR46	.1795	.2934	.5959	.2441	.3972

	ZFARRTLT	ZFCONPRO	ZFCONTLT	ZMARRTLT	ZMCONTLT
ZFARRTLT	1.0000				
ZFCONPRO	.6035	1.0000			
ZFCONTLT	.7364	.8103	1.0000		
ZMARRTLT	.2955	.1664	.2637	1.0000	
ZMCONTLT	.2261	.1448	.2344	.8691	1.0000
ZR44	.4900	.5025	.6139	.5064	.5256
ZFELPROB	.7041	.7754	.9437	.2591	.2224
ZR45	.3319	.3714	.4203	.2970	.3109

ZFREC	.5192	.6351	.7010	.1707	.1553
ZR46	.6500	.6917	.8419	.2201	.1817

	ZR44	ZFELPROB	ZR45	ZFREC	ZR46
ZR44	1.0000				
ZFELPROB	.6387	1.0000			
ZR45	.5591	.4476	1.0000		
ZFREC	.4899	.7524	.5792	1.0000	
ZR46	.6033	.8186	.4670	.6042	1.0000

N of Cases = 3397.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	.0011	119.7820	10.9445	20

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZGANG	.0022	118.1089	.0313	.0514	.8857
ZJUVENIL	.0019	113.9405	.2271	.2577	.8795
ZR47	.0002	113.8399	.2316	.1346	.8793
ZR49	.0014	117.1186	.0769	.0547	.8843
ZINCID	.0006	105.7615	.6324	.5713	.8659
ZINCJAIL	.0018	111.5651	.3418	.4446	.8757
ZINCTYC	.0008	114.3997	.2046	.2570	.8802
ZFARRPRO	.0004	105.3490	.6536	.9043	.8652
ZFARRPER	.0018	112.1277	.3148	.7034	.8766
ZFARRDRU	.0006	110.8607	.3757	.7334	.8746
ZFARRTLT	.0015	103.5009	.7522	.9513	.8617
ZFCONPRO	.0005	104.8992	.6769	.8196	.8643
ZFCONTLT	.0013	102.3385	.8128	.9348	.8595
ZMARRTLT	.0004	109.6339	.4364	.7684	.8726
ZMCONTLT	.0006	110.2984	.4035	.8082	.8737
ZR44	.0008	104.3043	.7081	.6537	.8632
ZFELPROB	.0011	102.4297	.8077	.9146	.8597
ZR45	.0004	107.4189	.5476	.5231	.8688
ZFREC	.0007	105.2802	.6571	.7071	.8650
ZR46	.0010	102.9051	.7823	.7799	.8606

Reliability Coefficients 20 items

Alpha = .8768 Standardized item alpha = .8768

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Criminal History Variables – Juvenile Variables Only in z scores

		Mean	Std Dev	Cases
1.	ZGANG	-.0014	.9966	3401.0
2.	ZJUVENIL	.0005	1.0005	3401.0
3.	ZINCTYC	.0000	1.0001	3401.0

N of Cases = 3401.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	-.0009	4.4127	2.1006	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZGANG	.0005	2.7873	.1900	.0386	.5640
ZJUVENIL	-.0013	2.2549	.3850	.1726	.2319
ZINCTYC	-.0009	2.3650	.3405	.1578	.3135

Reliability Coefficients   3 items

Alpha =   .4821   Standardized item alpha =   .4818

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Criminal History Variables – Wisconsin Risk Assessment Variables in z scores

		Mean	Std Dev	Cases
1.	ZR47	.0003	1.0000	3404.0
2.	ZR49	.0001	1.0001	3404.0
3.	ZR44	-.0001	1.0001	3404.0
4.	ZR45	.0000	1.0000	3404.0
5.	ZR46	.0001	1.0001	3404.0

Statistics for	Mean	Variance	Std Dev	Variables
Scale	.0004	9.4512	3.0743	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZR47	.0002	7.5892	.1564	.0549	.6305
ZR49	.0003	8.2329	.0380	.0105	.6854
ZR44	.0005	5.6541	.5880	.4648	.3899
ZR45	.0004	6.1189	.4714	.3389	.4615
ZR46	.0003	5.7595	.5607	.4030	.4072

Reliability Coefficients   5 items

Alpha =   .5886   Standardized item alpha =   .5886

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Criminal History Variables – Cohort Test Variables in z scores

		Mean	Std Dev	Cases
1.	ZFARRTLT	.0003	1.0004	3401.0
2.	ZFCONTLT	.0003	1.0004	3401.0
3.	ZMARRTLT	.0002	1.0004	3401.0
4.	ZFREC	.0002	1.0006	3401.0
5.	ZFELPROB	.0004	1.0005	3401.0
6.	ZINCID	.0001	1.0003	3401.0
7.	ZINCJAIL	-.0007	.9996	3401.0
8.	ZFARRPRO	.0003	1.0005	3401.0
9.	ZFARRPER	.0003	1.0006	3401.0
10.	ZFARRDRU	.0002	1.0004	3401.0
11.	ZFCONPRO	.0003	1.0006	3401.0
12.	ZMCONTLT	-.0001	1.0003	3401.0

N of Cases = 3401.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	.0018	63.5099	7.9693	12

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZFARRTLT	.0015	50.9405	.8101	.9495	.8623
ZFCONTLT	.0015	50.5569	.8402	.9265	.8605
ZMARRTLT	.0017	55.8266	.4470	.7674	.8831
ZFREC	.0016	53.0259	.6508	.6338	.8716
ZFELPROB	.0014	50.7358	.8260	.9080	.8613
ZINCID	.0017	53.0635	.6482	.5659	.8718
ZINCJAIL	.0025	57.3150	.3433	.3897	.8887
ZFARRPRO	.0015	52.7082	.6746	.9001	.8703
ZFARRPER	.0015	57.5214	.3286	.6962	.8895
ZFARRDRU	.0016	56.4451	.4034	.7246	.8855
ZFCONPRO	.0015	52.6085	.6821	.8188	.8698
ZMCONTLT	.0019	56.3610	.4094	.7880	.8852

Reliability Coefficients   12 items

Alpha =   .8846   Standardized item alpha =   .8846

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Criminal History Variables – Cohort Test Variables in z scores

Less the following varialbes
ZINCJAIL
ZFARRPER
ZFARRDRU
ZMCONTLT

Statistics for	Mean	Variance	Std Dev	Variables
Scale	.0015	39.5725	6.2907	8

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZFARRTLT	.0012	30.2075	.7608	.7907	.8961
ZFCONTLT	.0013	28.9499	.8939	.9233	.8844
ZMARRTLT	.0014	35.4335	.2636	.1017	.9360
ZFREC	.0013	30.5700	.7233	.6333	.8994
ZFELPROB	.0012	29.0024	.8881	.9076	.8849
ZINCID	.0014	30.9423	.6857	.5643	.9026
ZFARRPRO	.0012	30.4026	.7405	.8163	.8979
ZFCONPRO	.0013	29.9319	.7893	.8139	.8937

Reliability Coefficients   8 items

Alpha =   .9117   Standardized item alpha =   .9117

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
Criminal History Variables – Cohort Test Variables in z scores

Less the following variables
ZINCJAIL
ZFARRPER
ZFARRDRU
ZMCONTLT
ZMARRTLT
N of Cases = 3402.0

Statistics for	Mean	Variance	Std Dev	Variables
Scale	.0014	35.4335	5.9526	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
ZFARRTLT	.0011	26.6583	.7527	.7876	.9297
ZFCONTLT	.0012	25.3380	.9032	.9233	.9156
ZFREC	.0012	26.7727	.7399	.6329	.9309
ZFELPROB	.0011	25.3814	.8979	.9075	.9161
ZINCID	.0013	27.2280	.6903	.5635	.9354
ZFARRPRO	.0011	26.6676	.7515	.8162	.9298
ZFCONPRO	.0012	26.1260	.8122	.8135	.9242

Reliability Coefficients 7 items
Alpha = .9360 Standardized item alpha = .9360

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Criminal History Variables – Pure statistical deduction of variables into the most effiectint relialbity scale. Factors that are underlined are removed from the following analysis.

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ZGANG	**.0022**	**118.1089**	**.0313**	**.8857**
ZJUVENIL	.0019	113.9405	.2271	.8795
ZR47	.0002	113.8399	.2316	.8793
ZR49	**.0014**	**117.1186**	**.0769**	**.8843**
ZINCID	.0006	105.7615	.6324	.8659
ZINCJAIL	.0018	111.5651	.3418	.8757
ZINCTYC	**.0008**	**114.3997**	**.2046**	**.8802**
ZFARRPRO	.0004	105.3490	.6536	.8652
ZFARRPER	.0018	112.1277	.3148	.8766
ZFARRDRU	.0006	110.8607	.3757	.8746
ZFARRTLT	.0015	103.5009	.7522	.8617
ZFCONPRO	.0005	104.8992	.6769	.8643
ZFCONTLT	.0013	102.3385	.8128	.8595
ZMARRTLT	.0004	109.6339	.4364	.8726
ZMCONTLT	.0006	110.2984	.4035	.8737
ZR44	.0008	104.3043	.7081	.8632
ZFELPROB	.0011	102.4297	.8077	.8597
ZR45	.0004	107.4189	.5476	.8688
ZFREC	.0007	105.2802	.6571	.8650
ZR46	.0010	102.9051	.7823	.8606

Reliability Coefficients
N of Cases = 3397.0 N of Items = 20
Alpha = .8768

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ZJUVENIL	.0032	106.1414	.1673	.9057
ZR47	.0019	104.9850	.2243	.9040
ZINCID	.0018	96.6933	.6550	.8900
ZINCJAIL	**.0033**	**102.5055**	**.3498**	**.9000**
ZFARRPRO	.0016	96.3846	.6716	.8895
ZFARRPER	**.0016**	**103.1696**	**.3153**	**.9011**
ZFARRDRU	.0017	101.6963	.3907	.8987
ZFARRTLT	.0016	94.5209	.7741	.8860
ZFCONPRO	.0017	95.9066	.6976	.8886
ZFCONTLT	.0016	93.3355	.8403	.8837
ZMARRTLT	.0018	100.6183	.4465	.8969
ZMCONTLT	.0021	101.1979	.4165	.8979
ZR44	.0018	95.6273	.7130	.8881
ZFELPROB	.0015	93.4464	.8339	.8839
ZR45	.0017	98.7626	.5440	.8937
ZFREC	.0018	96.2771	.6774	.8893
ZR46	.0015	94.4675	.7769	.8859

Reliability Coefficients
N of Cases = 3400.0 N of Items = 17
Alpha = .8990

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ZINCID	.0037	73.6676	.6725	.9130
ZFARRPRO	.0035	73.3876	.6899	.9123
ZFARRDRU	**.0037**	**77.9940**	**.4087**	**.9229**
ZFARRTLT	.0035	72.1742	.7672	.9093
ZFCONPRO	.0036	72.7242	.7319	.9107
ZFCONTLT	.0036	70.4852	.8768	.9050
ZMARRTLT	.0037	78.0021	.4082	.9229
ZMCONTLT	.0040	78.6049	.3727	.9242
ZR44	.0038	73.0512	.7112	.9115
ZFELPROB	.0035	70.5535	.8722	.9052
ZR45	.0036	75.8654	.5365	.9182
ZFREC	.0037	73.0446	.7115	.9115
ZR46	.0034	71.8502	.7879	.9085

Reliability Coefficients

N of Cases = 3400.0 N of Items = 13

Alpha = .9198

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ZINCID	.0027	53.2087	.6953	.9345
ZFARRPRO	.0025	52.8726	.7204	.9333
ZFARRTLT	.0025	52.6325	.7387	.9324
ZFCONPRO	.0026	51.9124	.7936	.9298
ZFCONTLT	.0026	50.5026	.9039	.9243
ZR44	**.0026**	**53.7666**	**.6535**	**.9365**
ZFELPROB	.0025	50.4875	.9049	.9243
ZR45	**.0026**	**55.5366**	**.5243**	**.9425**
ZFREC	.0027	52.3436	.7605	.9314
ZR46	.0024	51.5897	.8185	.9286

Reliability Coefficients

N of Cases = 3401.0 N of Items = 10

Alpha = .9383

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ZINCID	.0019	45.1905	.6939	.9404
ZFARRPRO	.0017	44.6936	.7347	.9382
ZFARRTLT	.0017	44.4637	.7539	.9371
ZFCONPRO	.0018	43.8254	.8075	.9341
ZFCONTLT	.0018	42.5122	.9207	.9276
ZR44	.0017	46.0545	.6236	.9442
ZFELPROB	.0017	42.5520	.9170	.9279
ZFREC	.0018	44.6722	.7364	.9381
ZR46	.0017	43.6928	.8187	.9335

Reliability Coefficients

N of Cases = 3402.0 N of Items = 9

Alpha = .9425

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
ZINCID	.0016	36.6387	.6951	.9436
ZFARRPRO	.0014	36.0970	.7451	.9403
ZFARRTLT	.0014	35.9772	.7565	.9395
ZFCONPRO	.0015	35.3637	.8144	.9356
ZFCONTLT	.0015	34.2737	.9205	.9282
ZFELPROB	.0014	34.3634	.9115	.9289
ZFREC	.0015	36.1854	.7368	.9408
ZR46	.0014	35.4335	.8078	.9360

Reliability Coefficients

N of Cases = 3402.0　　　　N of Items = 8

Alpha = .9442

Appendix D: Texas Wisconsin Risk and Need Instrument with Weighted Scoring

Items and Score of the Texas Version of the Wisconsin Risk Assessment

R38 Number of Address Changes in Last 12 Months
- 0 None
- 2 One
- 3 Two or More

R39 Percentage of Time Employed in Last 12 Months
- 0 60% or more
- 1 40% - 59%
- 2 Under 40%
- 0 Not Applicable

R40 Alcohol Usage
- 0 Alcohol use unrelated to criminal activity; ex. No alcohol arrests, no evidence of use during offense
- 1 Probable relationship between alcohol use and criminal
- 2 Definite relationship between alcohol use and criminal activity; ex., pattern of committing offenses while using alcohol

R41 Other Drug Usage
- 0 No abuse of legal drugs; no indicators of illegal drug involvement, i.e., use, possession or abuse
- 1 Probable relationship between drug involvement and criminal activity
- 2 Definite relationship between drug involvement and criminal activity; ex., pattern of committing offenses wile using drugs, sale or manufacture of illegal drugs

R42 Attitude
- 0 Motivated to change; receptive to assistance
- 3 Somewhat motivated but dependent or unwilling to accept responsibility
- 5 Rationalizes behavior; negative; not motivated to change

R43 Age at First Adjudication of Guilt (Adult or Juvenile – include deferred)
- 0 24 or older
- 2 20 – 23
- 4 19 or younger

R44 Number of Prior Probation/Parole Supervision (Adult or Juvenile)
- 0 None
- 4 One or more

R45 Number of Prior Probation/Parole Supervision (Adult or Juvenile
- 0 None
- 4 One or more

R46 Number of Prior Felony Adjudications of Guilt (or Juvenile Commitments – include deferred)
- 0 None
- 2 One
- 4 Two or more

R47 & R48 Adult or Juvenile Adjudications for (Select applicable and add for score. Include current offense, Maximum score: 5)
- 0 None
- 2 Burglary, theft, auto theft or robbery R47
- 3 Worthless checks or forgery R48

R49 Adult or Juvenile Adjudication for Assaultive Offense with last FIVE years
- 0 No
- 8 Yes

1 – Maximum (15+)
2 – Medium (8 – 14)
3 – Minimum (0 – 7)

Items on the Texas Version of the Wisconsin Need Assessment

N50 Academic/Vocational Skills
- -1 High School or above skill level
- 0 Adequate skills; able to handle everyday requirements
- +2 low skills level causing minor adjustment problems
- +4 Minimal skill level causing serious adjustment problems

N51 Employment
- -1 Satisfactory employment for one year or longer
- 0 No current difficulties
- +3 Unsatisfactory employment or unemployed but has adequate job skills
- +6 Unemployed and virtually unemployable; needs training

N52 Financial Management
- -1 Long-standing pattern of self-sufficiency; e.g., good credit
- 0 No current difficulties
- +3 Situational or minor difficulties
- +5 Severe difficulties; may include overdrafts, bad checks or bankruptcy

N53 Marital/Family Relationships
- -1 Relationships and support exceptionally strong
- 0 Relatively stable relationships
- +3 Some disorganization or stress but potential for improvement
- +5 Major disorganization or stress

N54 Companions
- -1 Good support and influence
- 0 No adverse relationships
- +2 Associations with occasional negative results
- +4 Associations almost completely negative

N55 Emotional Stability

-2 Exceptionally ell adjusted; accepts responsibility for actions

0 No symptoms of emotional instability; appropriate emotional responses

+4 Symptoms limit but do not prohibit adequate functioning; e.g., excessive anxiety

+7 Symptoms prohibit adequate functioning; e.g., lashes out or retreats into self

N56 Alcohol Usage Problems

0 No use; use with no abuse; no disruption of functioning

+3 Occasional abuse; some disruption of functioning

+6 Frequent abuse; serious disruption of functioning

N57 Other drug Usage Problems

0 No disruption of functioning

+3 Occasional abuse; some disruption of functioning

+5 Frequent abuse; serious disruption of functioning

N58 Mental Ability

0 Able to function independently

+3 Some need for assistance; potential for adequate adjustment; possible retardation

+6 Deficiencies severely limit independent functioning; possible retardation

N59 Health

0 Sound physical health; seldom ill

+1 Handicap or illness interferes with functioning on a recurring basis

+2 Serious handicap or chronic illness; needs frequent medical care

N60 Sexual Behavior

0 No apparent dysfunction

+3 Real or perceived situational or minor problems

+5 Real or perceived chronic severe problems

N61 P.O.'s Impression of probationer's needs

-1 Well adjusted
0 No Needs
+3 Moderate Needs
+5 High Needs

Needs

1- Maximum (30+)
2- Medium (15 – 29)
3- Minimum (14 & Below)

Appendix E: A recap of the list of data variables and the codes

Wisconsin Risk Variables	Variable Code
Address Changes in last 12 months	R38
Percent employed in last 12 months	R39
Alcohol Usage to Criminal Activity 1 Unrelated 2 Probable relationship 3 Definite relationship	R40
Drug Usage to Criminal Activity 1 Unrelated 2 Probable relationship 3 Definite relationship	R41
Attitude 1 Motivated to change 2 Somewhat motivated 3 Not motivated	R42
Age at first adjudication of guilt	R43
Prior Probation/ Parole Sup.	R44
Prior Prob./ Parole Rev.	R45
Prior Felony Adjud.of Guilt	R46
Adjudications for burglary, theft, auto theft or robbery 1 Yes 0 No	R47
Adjudications for worthless checks or forgery 1 Yes 0 No	R48
Adjudication for assaultive offense within last 5 years (Risk) 1 Yes 0 No	R49

Wisconsin Need Variables	Variable Codes
Educational 0 High School or above skill 1 Adequate skills 2 Low skills 3 Minimal skills	N50
Employment 0 Satisfactory over a year 1 Secure 2 Unsatisfactory 3 Unemployed	N51

Wisconsin Need Variables	Variable Codes
Financial Management (Needs) 0 Self-sufficient long term 1 No current difficulties 2 Minor difficulties 3 Severe difficulties	N52
Marital/Family Relations (Need) 0 Exceptionally strong 1 Relatively stable 2 Some disorganization 3 Major disorganization	N53
Companions 0 Good support 1 No adverse relations 2 Occasional negative 3 Completely negative	N54
Emotional Stability (Needs) 0 Exceptionally well 1 No instability 2 Limited functioning 3 Prohibit functioning	N55
Alcohol Usage (Needs) 1 No abuse 2 Occassional abuse 3 Frequent abuse	N56
Drug Usage (Needs) 1 No abuse 2 Occasional abuse 3 Frequent abuse	N57
Mental Ability (Needs) 1 Able to function 2 Need for assistance 3 Severely limited	N58
Health 1 Sound 2 Handicap 3 Serious impairment	N59
Sexual Behavior 1 No dysfunction 2 Situational or Minor 3 Real or Chronic	N60
PO's Impression (Needs) 0 Well adjusted 1 No needs 2 Moderate Needs 3 High Needs	N61

Cohort Variables	Variable Code
Gender 1 Male 2 Female	Gender
Age at intake	Age_in
Marital Status at Intake 1 Married/common law 2 Not married 3 Never married	M_Status
Living Arrangement at Intake 1 With spouse / children 2 With mother and/or father 3 Alone 4 Other	Living
Current Offense (Intake Offense) 1 Violent 2 Property 3 Drug/Alcohol 4 Other	Off_type
Offense Level 1 First Degree 2 Second Degree 3 Third Degree	Of_level
Type of Intake 1 Direct sentence 2 Return of any kind	In_type
Legal Status at Offense 1 Under supervision 0 Not under supervision	Legstat
Criminal Gang Affiliation 1 Yes 0 No known affiliation	Gang
Prior Juvenile Record 1 Yes 0 No known record	Juvenile
Prior non-probation sentences to prison 0 None 1 One or more	Incid
Prior non-probation sentences to jail 0 None 1 One or more	Injail
Prior non-probation sentences to Texas Youth Commission 0 None 1 One or more	Intyc

Cohort Variables	Variable Code
Prior felony arrest-property	Farrprop
Prior felony arrest-persons	Farrpers
Prior felony arrest-drug	Farrdrug
Total prior felony arrests	Farrtlt
Prior felony conviction-prop.	Fconprop
Total prior felony convictions	Fcontlt
Total prior misd. Arrests	Marrtlt
Total prior misd. Convictions	Mcontlt
Prior Adult Fel, Prob./ Parole Sup.	Felprobs
Prior Adult Fel. Prob. /Parole Rev.	Felprobr
High School Diploma or GED 1 Yes 0 No Missing	Hs_ged
Highest Grade Completed	H_grade
Employment Status at Intake 1 Full-time 2 Part-time/seasonal 3 Student/homemaker 4 Not employed	Employed
Influence Alc/Drg at current offense 1 Yes 0 No known record	Inflad
Number of times offender in substance abuse inpatient 0 None 1 One or more	Adtmtin
Cocaine/Crack over past 12 mo. 0 No use 1 Use	Crack
THC over past 12 mo. 0 No use 1 Use	Marj
Any other drug over past 12 mo. 0 No use 1 Use	Any_drug
Drug by injection over 12 mo. 1 Yes 0 No	Inject
Alcohol over past 12 mo. 1 No regular use 2 Monthly use 3 Weekly use 4 More than weekly use	Alc12mo

Appendix F: Regression Analysis Summary Tables

Wisconsin Risk Variables with Rearrest

Classification Table[a]

	Observed		Predicted: Arrested Ever Over 3 Years: Not Arrested	Predicted: Arrested Ever Over 3 Years: Arrested	Predicted: Percentage Correct
Step 1	Arrested Ever Over 3 Years	Not Arrested	1669	463	78.3
		Arrested	481	306	38.9
	Overall Percentage				67.7

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	.040	.027	2.091	1	.148	1.041
	R39	-.005	.001	14.989	1	.000	.995
	R40			3.366	2	.186	
	R40(1)	-.104	.113	.834	1	.361	.902
	R40(2)	.101	.123	.678	1	.410	1.106
	R41			8.134	2	.017	
	R41(1)	-.298	.106	7.977	1	.005	.742
	R41(2)	-.213	.127	2.827	1	.093	.808
	R42			3.677	2	.159	
	R42(1)	-.116	.142	.674	1	.411	.890
	R42(2)	.064	.139	.214	1	.644	1.067
	R43	-.043	.007	42.313	1	.000	.958
	R44	.084	.046	3.359	1	.067	1.087
	R45	.006	.101	.004	1	.950	1.006
	R46	-.131	.068	3.683	1	.055	.877
	R47(1)	-.181	.094	3.689	1	.055	.834
	R48(1)	.190	.143	1.774	1	.183	1.209
	R48(1)	.190	.143	1.774	1	.183	1.209
	R49(1)	-.232	.110	4.433	1	.035	.793
	R49(1)	-.232	.110	4.433	1	.035	.793
	Constant	.586	.291	4.072	1	.044	1.797
	Constant	.586	.291	4.072	1	.044	1.797

a Variable(s) entered on step 1: R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49.

Wisconsin Need Variables with Rearrest

Classification Table[a]

	Observed		Predicted: Arrested Ever Over 3 Years: Not Arrested	Predicted: Arrested Ever Over 3 Years: Arrested	Predicted: Percentage Correct
Step 1	Arrested Ever Over 3 Years	Not Arrested	1986	503	79.8
		Arrested	593	318	34.9
	Overall Percentage				67.8

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N50			4.417	3	.220	
	N50(1)	-.081	.183	.197	1	.658	.922
	N50(2)	.085	.184	.212	1	.646	1.089
	N50(3)	.121	.176	.470	1	.493	1.128
	N51			11.835	3	.008	
	N51(1)	-.559	.194	8.277	1	.004	.572
	N51(2)	-.249	.168	2.193	1	.139	.779
	N51(3)	-.133	.160	.697	1	.404	.875
	N52			2.499	3	.475	
	N52(1)	-.285	.248	1.321	1	.250	.752
	N52(2)	.043	.147	.086	1	.769	1.044
	N52(3)	-.057	.120	.225	1	.635	.945
	N53			5.615	3	.132	
	N53(1)	-.003	.189	.000	1	.989	.997
	N53(2)	.232	.154	2.267	1	.132	1.261
	N53(3)	.246	.141	3.064	1	.080	1.279
	N54			12.259	3	.007	
	N54(1)	-.502	.192	6.810	1	.009	.606
	N54(1)	-.502	.192	6.810	1	.009	.606
	N54(2)	-.403	.137	8.629	1	.003	.668
	N54(2)	-.403	.137	8.629	1	.003	.668
	N54(3)	-.147	.112	1.728	1	.189	.863
	N54(3)	-.147	.112	1.728	1	.189	.863
	N55			7.292	3	.063	
	N55			7.292	3	.063	
	N55(1)	-.489	.233	4.396	1	.036	.613
	N55(1)	-.489	.233	4.396	1	.036	.613
	N55(2)	-.477	.215	4.923	1	.026	.621
	N55(2)	-.477	.215	4.923	1	.026	.621
	N55(3)	-.255	.211	1.459	1	.227	.775
	N55(3)	-.255	.211	1.459	1	.227	.775
	N56			3.899	2	.142	
	N56			3.899	2	.142	
	N56(1)	-.200	.116	2.971	1	.085	.819

						9
N56(2)	-.046	.115	.162	1	.687	.955
N57			1.762	2	.414	
N57(1)	-.129	.121	1.132	1	.287	.879
N57(2)	-.017	.128	.019	1	.892	.983
N58			4.859	2	.088	
N58(1)	-1.002	.476	4.443	1	.035	.367
N58(2)	-.838	.481	3.040	1	.081	.432
N59			5.939	2	.051	
N59(1)	.466	.267	3.033	1	.082	1.593
N59(2)	.186	.295	.399	1	.528	1.205
N60			2.831	2	.243	
N60(1)	.312	.265	1.392	1	.238	1.366
N60(2)	.584	.347	2.828	1	.093	1.794
N61			1.772	3	.621	
N61(1)	-.111	.308	.129	1	.719	.895
N61(2)	-.305	.229	1.762	1	.184	.737
N61(3)	-.053	.104	.262	1	.609	.948
Constant	.169	.545	.096	1	.757	1.184

a Variable(s) entered on step 1: N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Wisconsin Risk and Need Variables with Rearrest

Classification Table[a]

	Observed		Predicted		
			Arrested Ever Over 3 Years		Percentage Correct
			Not Arrested	Arrested	
Step 1	Arrested Ever Over 3 Years	Not Arrested	1642	487	77.1
		Arrested	431	355	45.2
	Overall Percentage				68.5

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	.033	.028	1.366	1	.242	1.033
	R39	-.002	.002	1.883	1	.170	.998
	R40			1.751	2	.417	
	R40(1)	.168	.179	.883	1	.347	1.183
	R40(2)	.198	.151	1.717	1	.190	1.218
	R41			2.460	2	.292	
	R41(1)	-.170	.169	1.011	1	.315	.844
	R41(2)	-.214	.141	2.304	1	.129	.807
	R42			.992	2	.609	
	R42(1)	.027	.152	.030	1	.861	1.027
	R42(2)	.109	.145	.564	1	.453	1.115
	R43	-.037	.007	29.257	1	.000	.963
	R44	.081	.047	2.980	1	.084	1.084
	R45	.010	.103	.009	1	.925	1.010
	R46	-.120	.069	2.997	1	.083	.887
	R47(1)	-.169	.097	3.037	1	.081	.844
	R48(1)	.227	.150	2.298	1	.130	1.255
	R49(1)	-.176	.120	2.138	1	.144	.838
	R49(1)	-.176	.120	2.138	1	.144	.838
	N50			1.199	3	.753	
	N50			1.199	3	.753	
	N50(1)	-.067	.206	.104	1	.747	.936
	N50(1)	-.067	.206	.104	1	.747	.936
	N50(2)	.021	.207	.011	1	.918	1.022
	N50(2)	.021	.207	.011	1	.918	1.022
	N50(3)	.056	.197	.080	1	.777	1.057
	N50(3)	.056	.197	.080	1	.777	1.057
	N51			2.914	3	.405	
	N51			2.914	3	.405	
	N51(1)	-.267	.238	1.259	1	.262	.765
	N51(1)	-.267	.238	1.259	1	.262	.765
	N51(2)	-.071	.206	.120	1	.729	.931
	N51(2)	-.071	.206	.120	1	.729	.931
	N51(3)	.005	.174	.001	1	.975	1.005

N52			4.542	3	.209	
N52(1)	-.362	.279	1.681	1	.195	.696
N52(2)	.091	.163	.315	1	.575	1.095
N52(3)	-.090	.132	.464	1	.496	.914
N53			5.900	3	.117	
N53(1)	-.023	.212	.012	1	.915	.978
N53(2)	.272	.170	2.574	1	.109	1.313
N53(3)	.258	.154	2.793	1	.095	1.294
N54			1.068	3	.785	
N54(1)	-.143	.217	.434	1	.510	.867
N54(2)	-.048	.157	.096	1	.757	.953
N54(3)	.031	.127	.061	1	.805	1.032
N55			6.810	3	.078	
N55(1)	-.404	.263	2.357	1	.125	.667
N55(2)	-.468	.245	3.650	1	.056	.626
N55(3)	-.193	.242	.639	1	.424	.824
N56			2.108	2	.348	
N56(1)	-.282	.202	1.935	1	.164	.755
N56(2)	-.106	.154	.474	1	.491	.899
N57			.400	2	.819	
N57(1)	-.059	.193	.092	1	.761	.943
N57(2)	.040	.151	.070	1	.791	1.041
N58			6.399	2	.041	
N58(1)	-2.847	1.131	6.331	1	.012	.058
N58(2)	-2.756	1.133	5.917	1	.015	.064
N59			3.685	2	.158	
N59(1)	.758	.460	2.714	1	.099	2.135
N59(1)	.758	.460	2.714	1	.099	2.135
N59(2)	.555	.488	1.296	1	.255	1.743
N59(2)	.555	.488	1.296	1	.255	1.743
N60			.727	2	.695	
N60			.727	2	.695	
N60(1)	.194	.296	.429	1	.512	1.214
N60(1)	.194	.296	.429	1	.512	1.214
N60(2)	.327	.385	.721	1	.396	1.387
N60(2)	.327	.385	.721	1	.396	1.387
N61			1.550	3	.671	
N61			1.550	3	.671	
N61(1)	-.325	.376	.748	1	.387	.722
N61(1)	-.325	.376	.748	1	.387	.722
N61(2)	-.250	.242	1.070	1	.301	.779
N61(2)	-.250	.242	1.070	1	.301	.779
N61(3)	-.082	.115	.513	1	.474	.921
N61(3)	-.082	.115	.513	1	.474	.921
Constant	2.395	1.214	3.889	1	.049	10.964
Constant	2.395	1.214	3.889	1	.049	10.964

a Variable(s) entered on step 1: R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Wisconsin Risk and Need Variables with Rearrest Forward Conditional

Classification Table[a]

	Observed		Predicted: Arrested Ever Over 3 Years: Not Arrested	Predicted: Arrested Ever Over 3 Years: Arrested	Predicted: Percentage Correct
Step 1	Arrested Ever Over 3 Years	Not Arrested	1628	501	76.5
		Arrested	512	274	34.9
	Overall Percentage				65.2
Step 2	Arrested Ever Over 3 Years	Not Arrested	1638	491	76.9
		Arrested	472	314	39.9
	Overall Percentage				67.0
Step 3	Arrested Ever Over 3 Years	Not Arrested	1637	492	76.9
		Arrested	463	323	41.1
	Overall Percentage				67.2
Step 4	Arrested Ever Over 3 Years	Not Arrested	1640	489	77.0
		Arrested	469	317	40.3
	Overall Percentage				67.1
Step 5	Arrested Ever Over 3 Years	Not Arrested	1645	484	77.3
		Arrested	469	317	40.3
	Overall Percentage				67.3
Step 6	Arrested Ever Over 3 Years	Not Arrested	1625	504	76.3
		Arrested	455	331	42.1
	Overall Percentage				67.1

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R43	-.056	.006	83.156	1	.000	.945
	Constant	.326	.146	4.977	1	.026	1.385
Step 2	R43	-.050	.006	63.440	1	.000	.951
	N51			30.750	3	.000	
	N51(1)	-.806	.167	23.356	1	.000	.447
	N51(2)	-.425	.154	7.595	1	.006	.654
	N51(3)	-.234	.145	2.594	1	.107	.791
	Constant	.555	.184	9.108	1	.003	1.742
	Constant	.555	.184	9.108	1	.003	1.742
Step 3	R43	-.050	.006	63.707	1	.000	.951
Step 3	R43	-.050	.006	63.707	1	.000	.951
	N51			22.160	3	.000	
	N51			22.160	3	.000	
	N51(1)	-.663	.171	15.025	1	.000	.515
	N51(1)	-.663	.171	15.025	1	.000	.515

	N51(2)	-.303	.158	3.657	1	.056	.739
	N51(3)	-.139	.148	.881	1	.348	.870
	N55			17.236	3	.001	
	N55(1)	-.663	.232	8.182	1	.004	.515
	N55(2)	-.569	.215	7.022	1	.008	.566
	N55(3)	-.237	.225	1.107	1	.293	.789
	Constant	.952	.259	13.463	1	.000	2.591
Step 4	R43	-.048	.006	57.440	1	.000	.953
	N51			22.506	3	.000	
	N51(1)	-.678	.172	15.615	1	.000	.508
	N51(2)	-.311	.159	3.851	1	.050	.732
	N51(3)	-.152	.149	1.044	1	.307	.859
	N55			13.163	3	.004	
	N55(1)	-.609	.234	6.772	1	.009	.544
	N55(2)	-.536	.217	6.124	1	.013	.585
	N55(3)	-.246	.226	1.185	1	.276	.782
	N56			10.625	2	.005	
	N56(1)	-.299	.114	6.912	1	.009	.741
	N56(2)	-.016	.115	.020	1	.886	.984
	Constant	1.015	.265	14.689	1	.000	2.761
Step 5	R43	-.048	.006	58.224	1	.000	.953
	N51			20.153	3	.000	
	N51(1)	-.597	.178	11.296	1	.001	.551
	N51(2)	-.230	.165	1.954	1	.162	.794
	N51(3)	-.072	.155	.214	1	.644	.931
	N55			9.458	3	.024	
	N55(1)	-.483	.244	3.909	1	.048	.617
	N55(2)	-.410	.227	3.255	1	.071	.664
	N55(2)	-.410	.227	3.255	1	.071	.664
	N55(3)	-.136	.233	.341	1	.560	.873
	N55(3)	-.136	.233	.341	1	.560	.873
	N56			10.729	2	.005	
	N56			10.729	2	.005	
	N56(1)	-.301	.114	6.964	1	.008	.740
	N56(1)	-.301	.114	6.964	1	.008	.740
	N56(2)	-.016	.115	.020	1	.887	.984
	N56(2)	-.016	.115	.020	1	.887	.984
	N58			5.866	2	.053	
	N58			5.866	2	.053	
	N58(1)	-2.664	1.113	5.726	1	.017	.070
	N58(1)	-2.664	1.113	5.726	1	.017	.070
	N58(2)	-2.565	1.118	5.265	1	.022	.077
	N58(2)	-2.565	1.118	5.265	1	.022	.077
	Constant	3.486	1.118	9.721	1	.002	32.655
	Constant	3.486	1.118	9.721	1	.002	32.655
Step 6	R43	-.048	.006	56.832	1	.000	.953
Step 6	R43	-.048	.006	56.832	1	.000	.953
	N51			16.742	3	.001	
	N51			16.742	3	.001	
	N51(1)	-.566	.181	9.797	1	.002	.568
	N51(1)	-.566	.181	9.797	1	.002	.568
	N51(2)	-.245	.167	2.163	1	.141	.782
	N51(2)	-.245	.167	2.163	1	.141	.782

N51(3)	-.083	.156	.282	1	.596	.921
N53			9.621	3	.022	
N53(1)	-.175	.198	.787	1	.375	.839
N53(2)	.235	.157	2.254	1	.133	1.265
N53(3)	.236	.147	2.576	1	.108	1.266
N55			9.287	3	.026	
N55(1)	-.474	.254	3.491	1	.062	.623
N55(2)	-.497	.235	4.456	1	.035	.608
N55(3)	-.192	.236	.661	1	.416	.825
N56			10.403	2	.006	
N56(1)	-.304	.115	6.954	1	.008	.738
N56(2)	-.024	.115	.044	1	.833	.976
N58			5.948	2	.051	
N58(1)	-2.658	1.110	5.740	1	.017	.070
N58(2)	-2.543	1.114	5.208	1	.022	.079
Constant	3.379	1.116	9.162	1	.002	29.329

a Variable(s) entered on step 1: R43.
b Variable(s) entered on step 2: N51.
c Variable(s) entered on step 3: N55.
d Variable(s) entered on step 4: N56.
e Variable(s) entered on step 5: N58.
f Variable(s) entered on step 6: N53.

Wisconsin Best 8 Variables with Rearrest

Classification Table[a]

Observed			Predicted		
			Arrested Ever Over 3 Years		Percentage Correct
			Not Arrested	Arrested	
Step 1	Arrested Ever Over 3 Years	Not Arrested	1984	506	79.7
		Arrested	580	332	36.4
	Overall Percentage				68.1

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N53			12.244	3	.007	
	N53(1)	-.277	.177	2.437	1	.118	.758
	N53(2)	.050	.143	.124	1	.725	1.051
	N53(3)	.196	.135	2.100	1	.147	1.217
	N55			12.815	3	.005	
	N55(1)	-.680	.228	8.899	1	.003	.506
	N55(2)	-.571	.211	7.327	1	.007	.565
	N55(3)	-.315	.210	2.255	1	.133	.730
	N58			6.027	2	.049	
	N58(1)	-.939	.475	3.901	1	.048	.391
	N58(2)	-.661	.486	1.852	1	.174	.516
	N59			.355	2	.837	
	N59(1)	.078	.267	.085	1	.770	1.081
	N59(2)	-.006	.295	.000	1	.984	.994
	R43	-.045	.006	61.942	1	.000	.956
	R44	.110	.038	8.256	1	.004	1.117
	R46	-.110	.062	3.170	1	.075	.895
	R47(1)	-.165	.085	3.805	1	.051	.848
	R47(1)	-.165	.085	3.805	1	.051	.848
	Constant	1.390	.523	7.073	1	.008	4.013
	Constant	1.390	.523	7.073	1	.008	4.013

a Variable(s) entered on step 1: N53, N55, N58, N59, R43, R44, R46, R47.

All Cohort Variables with Rearrest

Classification Table[a]

	Observed		Predicted: Arrested Ever Over 3 Years: Not Arrested	Predicted: Arrested Ever Over 3 Years: Arrested	Predicted: Percentage Correct
Step 1	Arrested Ever Over 3 Years	Not Arrested	1658	463	78.2
		Arrested	421	362	46.2
	Overall Percentage				69.6

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	.219	.129	2.904	1	.088	1.245
	M_STATUS			3.749	2	.153	
	M_STATUS(1)	.163	.116	1.960	1	.162	1.177
	M_STATUS(2)	.251	.137	3.372	1	.066	1.285
	AGE_IN	-.031	.010	10.143	1	.001	.969
	HS_GED(1)	.133	.139	.921	1	.337	1.143
	EMPLOYED			2.636	3	.451	
	EMPLOYED(1)	.095	.152	.396	1	.529	1.100
	EMPLOYED(2)	-.102	.151	.455	1	.500	.903
	EMPLOYED(3)	-.533	.575	.860	1	.354	.587
	INFLAD(1)	-.055	.120	.206	1	.650	.947
	ALC12MO			3.278	3	.351	
	ALC12MO(1)	-.083	.165	.255	1	.613	.920
	ALC12MO(2)	.167	.163	1.056	1	.304	1.182
	ALC12MO(3)	.048	.135	.125	1	.723	1.049
	CRACK(1)	-.127	.144	.777	1	.378	.881
	MARJ(1)	-.135	.125	1.182	1	.277	.873
	LEGSTAT(1)	-.368	.147	6.217	1	.013	.692
	LEGSTAT(1)	-.368	.147	6.217	1	.013	.692
	GANG(1)	-.501	.220	5.191	1	.023	.606
	GANG(1)	-.501	.220	5.191	1	.023	.606
	JUVENILE(1)	-.182	.148	1.521	1	.217	.834
	JUVENILE(1)	-.182	.148	1.521	1	.217	.834
	FARRPROP	.106	.107	.992	1	.319	1.112
	FARRPROP	.106	.107	.992	1	.319	1.112
	FARRDRUG	.102	.119	.723	1	.395	1.107
	FARRDRUG	.102	.119	.723	1	.395	1.107
	FARRTLT	.031	.083	.136	1	.713	1.031
	FARRTLT	.031	.083	.136	1	.713	1.031
	MARRTLT	.156	.042	13.755	1	.000	1.168
	MARRTLT	.156	.042	13.755	1	.000	1.168
	MCONTLT	-.066	.062	1.118	1	.290	.936
	MCONTLT	-.066	.062	1.118	1	.290	.936
	INCJAIL	-.142	.135	1.104	1	.293	.868

						8
INCTYC	.175	.307	.326	1	.568	1.192
FELPROBS	.026	.123	.045	1	.832	1.026
R38	.029	.029	1.018	1	.313	1.030
R39	-.003	.002	2.456	1	.117	.997
R40			2.642	2	.267	
R40(1)	.251	.198	1.598	1	.206	1.285
R40(2)	.254	.159	2.541	1	.111	1.289
R41			1.886	2	.389	
R41(1)	-.068	.174	.151	1	.698	.935
R41(2)	-.197	.146	1.832	1	.176	.821
R42			.599	2	.741	
R42(1)	.026	.157	.027	1	.871	1.026
R42(2)	.089	.149	.358	1	.549	1.093
R43	-.012	.011	1.228	1	.268	.988
R44	.010	.057	.033	1	.857	1.010
R45	-.008	.113	.005	1	.942	.992
R46	-.218	.119	3.352	1	.067	.804
R47	.104	.102	1.034	1	.309	1.109
R48	-.251	.157	2.556	1	.110	.778
R49	.065	.126	.264	1	.607	1.067
N50			.096	3	.992	
N50(1)	.041	.249	.027	1	.870	1.042
N50(2)	-.004	.217	.000	1	.984	.996
N50(3)	.006	.202	.001	1	.978	1.006
N51			3.142	3	.370	
N51(1)	-.316	.263	1.449	1	.229	.729
N51(2)	-.116	.233	.250	1	.617	.890
N51(2)	-.116	.233	.250	1	.617	.890
N51(3)	.003	.180	.000	1	.985	1.003
N51(3)	.003	.180	.000	1	.985	1.003
N52			5.147	3	.161	
N52			5.147	3	.161	
N52(1)	-.382	.286	1.784	1	.182	.682
N52(1)	-.382	.286	1.784	1	.182	.682
N52(2)	.121	.167	.526	1	.468	1.129
N52(2)	.121	.167	.526	1	.468	1.129
N52(3)	-.075	.136	.307	1	.580	.927
N52(3)	-.075	.136	.307	1	.580	.927
N53			7.736	3	.052	
N53			7.736	3	.052	
N53(1)	.011	.219	.002	1	.961	1.011
N53(1)	.011	.219	.002	1	.961	1.011
N53(2)	.345	.177	3.811	1	.051	1.412
N53(2)	.345	.177	3.811	1	.051	1.412
N53(3)	.313	.159	3.876	1	.049	1.367
N53(3)	.313	.159	3.876	1	.049	1.367
N54			1.178	3	.758	
N54			1.178	3	.758	
N54(1)	-.004	.225	.000	1	.987	.996
N54(1)	-.004	.225	.000	1	.987	.996
N54(2)	.072	.164	.191	1	.662	1.074
N54(2)	.072	.164	.191	1	.662	1.074

N54(3)	.122	.133	.840	1	.359	1.130
N55			8.045	3	.045	
N55(1)	-.480	.271	3.133	1	.077	.619
N55(2)	-.532	.254	4.400	1	.036	.588
N55(3)	-.225	.249	.818	1	.366	.798
N56			1.030	2	.597	
N56(1)	-.218	.222	.962	1	.327	.804
N56(2)	-.146	.165	.787	1	.375	.864
N57			.528	2	.768	
N57(1)	.038	.219	.029	1	.864	1.038
N57(2)	.105	.162	.425	1	.515	1.111
N58			6.252	2	.044	
N58(1)	-2.821	1.143	6.090	1	.014	.060
N58(2)	-2.698	1.144	5.558	1	.018	.067
N59			2.949	2	.229	
N59(1)	.672	.469	2.050	1	.152	1.959
N59(2)	.472	.497	.901	1	.343	1.603
N60			.956	2	.620	
N60(1)	.129	.301	.183	1	.669	1.138
N60(2)	.360	.390	.852	1	.356	1.433
N61			1.661	3	.646	
N61(1)	-.379	.394	.924	1	.337	.685
N61(2)	-.253	.246	1.057	1	.304	.777
N61(3)	-.071	.118	.363	1	.547	.931
Constant	3.161	1.275	6.147	1	.013	23.584

a Variable(s) entered on step 1: GENDER, M_STATUS, AGE_IN, HS_GED, EMPLOYED, INFLAD, ALC12MO, CRACK, MARJ, LEGSTAT, GANG, JUVENILE, FARRPROP, FARRDRUG, FARRTLT, MARRTLT, MCONTLT, INCJAIL, INCTYC, FELPROBS, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Cohort Variables with Rearrest Forward Conditional

Classification Table[a]

	Observed		Predicted: Arrested Ever Over 3 Years: Not Arrested	Predicted: Arrested Ever Over 3 Years: Arrested	Predicted: Percentage Correct
Step 1	Arrested Ever Over 3 Years	Not Arrested	1623	498	76.5
		Arrested	510	273	34.9
	Overall Percentage				65.3
Step 2	Arrested Ever Over 3 Years	Not Arrested	1723	398	81.2
		Arrested	530	253	32.3
	Overall Percentage				68.0
Step 3	Arrested Ever Over 3 Years	Not Arrested	1652	469	77.9
		Arrested	461	322	41.1
	Overall Percentage				68.0
Step 4	Arrested Ever Over 3 Years	Not Arrested	1633	488	77.0
		Arrested	451	332	42.4
	Overall Percentage				67.7
Step 5	Arrested Ever Over 3 Years	Not Arrested	1655	466	78.0
		Arrested	450	333	42.5
	Overall Percentage				68.5
Step 6	Arrested Ever Over 3 Years	Not Arrested	1667	454	78.6
		Arrested	451	332	42.4
	Overall Percentage				68.8
Step 7	Arrested Ever Over 3 Years	Not Arrested	1649	472	77.7
		Arrested	452	331	42.3
	Overall Percentage				68.2
Step 8	Arrested Ever Over 3 Years	Not Arrested	1677	444	79.1
		Arrested	457	326	41.6
	Overall Percentage				69.0
Step 9	Arrested Ever Over 3 Years	Not Arrested	1679	442	79.2
		Arrested	456	327	41.8
	Overall Percentage				69.1
Step 10	Arrested Ever Over 3 Years	Not Arrested	1678	443	79.1
		Arrested	466	317	40.5
	Overall Percentage				68.7
Step 11	Arrested Ever Over 3 Years	Not Arrested	1677	444	79.1
		Arrested	453	330	42.1
	Overall Percentage				69.1
Step 12	Arrested Ever Over 3 Years	Not Arrested	1685	436	79.4
		Arrested	445	338	43.2
	Overall Percentage				69.7
Step 13	Arrested Ever Over 3 Years	Not Arrested	1692	429	79.8
		Arrested	457	326	41.6
	Overall Percentage				69.5

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R43	-.058	.006	86.147	1	.000	.944
	Constant	.362	.147	6.058	1	.014	1.437
Step 2	MARRTLT	.090	.018	24.402	1	.000	1.095
	R43	-.055	.006	75.241	1	.000	.947
	Constant	.143	.154	.864	1	.353	1.154
Step 3	MARRTLT	.091	.018	24.390	1	.000	1.095
	R43	-.048	.006	57.110	1	.000	.953
	N51			31.586	3	.000	
	N51(1)	-.829	.168	24.374	1	.000	.437
	N51(2)	-.438	.155	7.961	1	.005	.645
	N51(3)	-.249	.146	2.900	1	.089	.779
	Constant	.387	.190	4.147	1	.042	1.473
Step 4	AGE_IN	-.024	.008	9.954	1	.002	.976
	MARRTLT	.127	.022	33.012	1	.000	1.135
	R43	-.029	.009	11.141	1	.001	.971
	N51			27.285	3	.000	
	N51(1)	-.774	.169	20.944	1	.000	.461
	N51(2)	-.410	.156	6.906	1	.009	.664
	N51(3)	-.230	.147	2.448	1	.118	.795
	Constant	.540	.197	7.526	1	.006	1.715
Step 5	AGE_IN	-.024	.008	9.975	1	.002	.976
	MARJ(1)	-.296	.097	9.363	1	.002	.744
	MARJ(1)	-.296	.097	9.363	1	.002	.744
	MARRTLT	.127	.022	32.888	1	.000	1.135
	MARRTLT	.127	.022	32.888	1	.000	1.135
	R43	-.026	.009	8.405	1	.004	.975
	R43	-.026	.009	8.405	1	.004	.975
	N51			24.309	3	.000	
	N51			24.309	3	.000	
	N51(1)	-.725	.170	18.156	1	.000	.484
	N51(1)	-.725	.170	18.156	1	.000	.484
	N51(2)	-.364	.157	5.380	1	.020	.695
	N51(2)	-.364	.157	5.380	1	.020	.695
	N51(3)	-.199	.148	1.807	1	.179	.820
	N51(3)	-.199	.148	1.807	1	.179	.820
	Constant	.634	.199	10.162	1	.001	1.886
	Constant	.634	.199	10.162	1	.001	1.886
Step 6	AGE_IN	-.025	.008	10.926	1	.001	.975
Step 6	AGE_IN	-.025	.008	10.926	1	.001	.975
	MARJ(1)	-.294	.097	9.222	1	.002	.745
	MARJ(1)	-.294	.097	9.222	1	.002	.745
	MARRTLT	.126	.022	31.878	1	.000	1.134
	MARRTLT	.126	.022	31.878	1	.000	1.134
	R43	-.025	.009	8.072	1	.004	.975

	N51			19.536	3	.000	
	N51(1)	-.589	.178	10.948	1	.001	.555
	N51(2)	-.232	.165	1.976	1	.160	.793
	N51(3)	-.073	.155	.222	1	.638	.930
	N58			8.239	2	.016	
	N58(1)	-3.002	1.139	6.949	1	.008	.050
	N58(2)	-2.769	1.146	5.838	1	.016	.063
	Constant	3.523	1.148	9.415	1	.002	33.901
Step 7	AGE_IN	-.025	.008	11.050	1	.001	.975
	MARJ(1)	-.288	.097	8.733	1	.003	.750
	MARRTLT	.126	.022	31.630	1	.000	1.135
	R43	-.025	.009	7.669	1	.006	.976
	N51			13.586	3	.004	
	N51(1)	-.514	.183	7.893	1	.005	.598
	N51(2)	-.228	.168	1.839	1	.175	.796
	N51(3)	-.075	.157	.230	1	.632	.928
	N53			11.350	3	.010	
	N53(1)	-.311	.189	2.724	1	.099	.733
	N53(2)	.116	.149	.604	1	.437	1.123
	N53(3)	.187	.145	1.665	1	.197	1.205
	N58			8.440	2	.015	
	N58(1)	-2.996	1.129	7.039	1	.008	.050
	N58(2)	-2.751	1.136	5.859	1	.016	.064
	Constant	3.412	1.141	8.939	1	.003	30.323
Step 8	AGE_IN	-.023	.008	9.312	1	.002	.977
	MARJ(1)	-.281	.098	8.267	1	.004	.755
	MARJ(1)	-.281	.098	8.267	1	.004	.755
	GANG(1)	-.520	.207	6.300	1	.012	.595
	GANG(1)	-.520	.207	6.300	1	.012	.595
	MARRTLT	.126	.022	31.577	1	.000	1.134
	MARRTLT	.126	.022	31.577	1	.000	1.134
	R43	-.024	.009	7.154	1	.007	.976
	R43	-.024	.009	7.154	1	.007	.976
	N51			12.626	3	.006	
	N51			12.626	3	.006	
	N51(1)	-.493	.183	7.242	1	.007	.611
	N51(1)	-.493	.183	7.242	1	.007	.611
	N51(2)	-.208	.169	1.525	1	.217	.812
	N51(2)	-.208	.169	1.525	1	.217	.812
	N51(3)	-.067	.157	.184	1	.668	.935
	N51(3)	-.067	.157	.184	1	.668	.935
	N53			11.142	3	.011	
	N53			11.142	3	.011	
	N53(1)	-.304	.189	2.589	1	.108	.738
	N53(1)	-.304	.189	2.589	1	.108	.738
	N53(2)	.127	.150	.720	1	.396	1.135
	N53(2)	.127	.150	.720	1	.396	1.135
	N53(3)	.186	.145	1.643	1	.200	1.204
	N53(3)	.186	.145	1.643	1	.200	1.204
	N58			8.245	2	.016	
	N58			8.245	2	.016	

	N58(1)	-2.944	1.132	6.762	1	.009	.053
	N58(2)	-2.693	1.139	5.586	1	.018	.068
	Constant	3.759	1.153	10.629	1	.001	42.913
Step 9	AGE_IN	-.025	.008	10.159	1	.001	.976
	MARJ(1)	-.272	.098	7.744	1	.005	.762
	LEGSTAT(1)	-.335	.133	6.312	1	.012	.715
	GANG(1)	-.539	.208	6.742	1	.009	.583
	MARRTLT	.119	.022	27.825	1	.000	1.126
	R43	-.022	.009	6.120	1	.013	.978
	N51			12.570	3	.006	
	N51(1)	-.506	.184	7.586	1	.006	.603
	N51(2)	-.223	.169	1.736	1	.188	.800
	N51(3)	-.085	.157	.288	1	.591	.919
	N53			10.922	3	.012	
	N53(1)	-.295	.189	2.440	1	.118	.744
	N53(2)	.136	.150	.822	1	.365	1.145
	N53(3)	.187	.145	1.654	1	.198	1.205
	N58			8.351	2	.015	
	N58(1)	-2.946	1.132	6.770	1	.009	.053
	N58(2)	-2.687	1.139	5.562	1	.018	.068
	Constant	4.080	1.160	12.366	1	.000	59.134
Step 10	AGE_IN	-.026	.008	11.584	1	.001	.974
	MARJ(1)	-.254	.098	6.679	1	.010	.776
	LEGSTAT(1)	-.339	.134	6.399	1	.011	.713
	GANG(1)	-.567	.209	7.380	1	.007	.567
	MARRTLT	.117	.023	26.642	1	.000	1.124
	MARRTLT	.117	.023	26.642	1	.000	1.124
	R43	-.021	.009	5.472	1	.019	.979
	R43	-.021	.009	5.472	1	.019	.979
	N51			11.604	3	.009	
	N51			11.604	3	.009	
	N51(1)	-.471	.184	6.527	1	.011	.624
	N51(1)	-.471	.184	6.527	1	.011	.624
	N51(2)	-.186	.170	1.200	1	.273	.830
	N51(2)	-.186	.170	1.200	1	.273	.830
	N51(3)	-.057	.158	.130	1	.718	.945
	N51(3)	-.057	.158	.130	1	.718	.945
	N53			11.145	3	.011	
	N53			11.145	3	.011	
	N53(1)	-.138	.200	.473	1	.492	.871
	N53(1)	-.138	.200	.473	1	.492	.871
	N53(2)	.292	.159	3.376	1	.066	1.339
	N53(2)	.292	.159	3.376	1	.066	1.339
	N53(3)	.288	.150	3.699	1	.054	1.334
	N53(3)	.288	.150	3.699	1	.054	1.334
	N55			9.606	3	.022	
	N55			9.606	3	.022	
	N55(1)	-.475	.258	3.395	1	.065	.622
	N55(1)	-.475	.258	3.395	1	.065	.622
	N55(2)	-.484	.240	4.071	1	.044	.616
	N55(2)	-.484	.240	4.071	1	.044	.616

	N55(3)	-.162	.240	.452	1	.501	.851
	N58			5.964	2	.051	
	N58(1)	-2.718	1.141	5.678	1	.017	.066
	N58(2)	-2.587	1.145	5.101	1	.024	.075
	Constant	4.161	1.169	12.668	1	.000	64.111
Step 11	AGE_IN	-.026	.008	11.068	1	.001	.974
	MARJ(1)	-.242	.099	6.009	1	.014	.785
	LEGSTAT(1)	-.353	.134	6.906	1	.009	.703
	GANG(1)	-.549	.209	6.921	1	.009	.577
	MARRTLT	.117	.023	26.869	1	.000	1.124
	R43	-.021	.009	5.353	1	.021	.979
	R48	-.306	.142	4.613	1	.032	.737
	N51			12.455	3	.006	
	N51(1)	-.492	.185	7.097	1	.008	.611
	N51(2)	-.203	.170	1.420	1	.233	.817
	N51(3)	-.064	.158	.164	1	.685	.938
	N53			10.958	3	.012	
	N53(1)	-.158	.201	.622	1	.430	.854
	N53(2)	.275	.159	2.989	1	.084	1.317
	N53(3)	.274	.150	3.348	1	.067	1.316
	N55			9.767	3	.021	
	N55(1)	-.473	.258	3.360	1	.067	.623
	N55(2)	-.485	.240	4.084	1	.043	.616
	N55(3)	-.158	.241	.432	1	.511	.854
	N58			6.100	2	.047	
	N58(1)	-2.733	1.133	5.814	1	.016	.065
	N58(2)	-2.601	1.138	5.224	1	.022	.074
	N58(2)	-2.601	1.138	5.224	1	.022	.074
	Constant	4.201	1.162	13.074	1	.000	66.747
	Constant	4.201	1.162	13.074	1	.000	66.747
Step 12	AGE_IN	-.031	.008	14.460	1	.000	.969
Step 12	AGE_IN	-.031	.008	14.460	1	.000	.969
	MARJ(1)	-.229	.099	5.367	1	.021	.795
	MARJ(1)	-.229	.099	5.367	1	.021	.795
	LEGSTAT(1)	-.319	.135	5.542	1	.019	.727
	LEGSTAT(1)	-.319	.135	5.542	1	.019	.727
	GANG(1)	-.539	.209	6.653	1	.010	.583
	GANG(1)	-.539	.209	6.653	1	.010	.583
	FARRTLT	.070	.033	4.635	1	.031	1.073
	FARRTLT	.070	.033	4.635	1	.031	1.073
	MARRTLT	.114	.023	25.379	1	.000	1.120
	MARRTLT	.114	.023	25.379	1	.000	1.120
	R43	-.015	.009	2.714	1	.099	.985
	R43	-.015	.009	2.714	1	.099	.985
	R48	-.340	.144	5.569	1	.018	.712
	R48	-.340	.144	5.569	1	.018	.712
	N51			11.107	3	.011	
	N51			11.107	3	.011	
	N51(1)	-.466	.185	6.319	1	.012	.627
	N51(1)	-.466	.185	6.319	1	.012	.627

	N51(2)	-.191	.170	1.252	1	.263	.826
	N51(3)	-.060	.159	.142	1	.706	.942
	N53			11.157	3	.011	
	N53(1)	-.155	.201	.595	1	.441	.856
	N53(2)	.282	.159	3.134	1	.077	1.326
	N53(3)	.279	.150	3.442	1	.064	1.321
	N55			9.596	3	.022	
	N55(1)	-.472	.258	3.332	1	.068	.624
	N55(2)	-.484	.241	4.043	1	.044	.617
	N55(3)	-.160	.241	.438	1	.508	.853
	N58			6.031	2	.049	
	N58(1)	-2.728	1.134	5.789	1	.016	.065
	N58(2)	-2.605	1.139	5.234	1	.022	.074
	Constant	4.130	1.163	12.609	1	.000	62.195
Step 13	AGE_IN	-.041	.006	49.970	1	.000	.960
	MARJ(1)	-.246	.098	6.286	1	.012	.782
	LEGSTAT(1)	-.329	.136	5.898	1	.015	.720
	GANG(1)	-.551	.209	6.951	1	.008	.576
	FARRTLT	.085	.032	7.312	1	.007	1.089
	MARRTLT	.127	.021	36.159	1	.000	1.136
	R48	-.348	.144	5.865	1	.015	.706
	N51			11.175	3	.011	
	N51(1)	-.468	.185	6.378	1	.012	.626
	N51(2)	-.191	.170	1.256	1	.262	.826
	N51(3)	-.061	.159	.147	1	.701	.941
	N53			11.404	3	.010	
	N53(1)	-.152	.201	.574	1	.449	.859
	N53(1)	-.152	.201	.574	1	.449	.859
	N53(2)	.290	.159	3.309	1	.069	1.336
	N53(2)	.290	.159	3.309	1	.069	1.336
	N53(3)	.283	.150	3.553	1	.059	1.327
	N53(3)	.283	.150	3.553	1	.059	1.327
	N55			10.014	3	.018	
	N55			10.014	3	.018	
	N55(1)	-.490	.258	3.606	1	.058	.612
	N55(1)	-.490	.258	3.606	1	.058	.612
	N55(2)	-.496	.240	4.260	1	.039	.609
	N55(2)	-.496	.240	4.260	1	.039	.609
	N55(3)	-.168	.241	.484	1	.487	.846
	N55(3)	-.168	.241	.484	1	.487	.846
	N58			6.061	2	.048	
	N58			6.061	2	.048	
	N58(1)	-2.711	1.121	5.844	1	.016	.066
	N58(1)	-2.711	1.121	5.844	1	.016	.066
	N58(2)	-2.592	1.126	5.296	1	.021	.075
	N58(2)	-2.592	1.126	5.296	1	.021	.075
	Constant	4.044	1.149	12.391	1	.000	57.039
	Constant	4.044	1.149	12.391	1	.000	57.039

a Variable(s) entered on step 1: R43.
b Variable(s) entered on step 2: MARRTLT.
c Variable(s) entered on step 3: N51.
d Variable(s) entered on step 4: AGE_IN.

e Variable(s) entered on step 5: MARJ.
f Variable(s) entered on step 6: N58.
g Variable(s) entered on step 7: N53.
h Variable(s) entered on step 8: GANG.
i Variable(s) entered on step 9: LEGSTAT.
j Variable(s) entered on step 10: N55.
k Variable(s) entered on step 11: R48.
l Variable(s) entered on step 12: FARRTLT.

All Cohort and Index Variables with Rearrest

Classification Table[a]

Observed			Predicted		
			Arrested Ever Over 3 Years		Percentage Correct
			Not Arrested	Arrested	
Step 1	Arrested Ever Over 3 Years	Not Arrested	1979	505	79.7
		Arrested	516	392	43.2
	Overall Percentage				69.9

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	.322	.114	7.987	1	.005	1.380
	M_STATUS			4.521	2	.104	
	M_STATUS(1)	.131	.108	1.474	1	.225	1.140
	M_STATUS(2)	.267	.126	4.464	1	.035	1.306
	AGE_IN	-.021	.008	7.131	1	.008	.979
	LEGSTAT(1)	-.377	.136	7.735	1	.005	.686
	GANG(1)	-.547	.199	7.561	1	.006	.578
	JUVENILE(1)	-.240	.127	3.573	1	.059	.787
	R38	.028	.027	1.049	1	.306	1.029
	R42			2.254	2	.324	
	R42(1)	-.086	.142	.363	1	.547	.918
	R42(2)	.052	.136	.147	1	.702	1.053
	R43	-.015	.009	2.902	1	.088	.985
	R44	.081	.049	2.754	1	.097	1.085
	R45	-.033	.101	.105	1	.746	.968
	R46	-.214	.095	5.023	1	.025	.808
	R47	.110	.090	1.502	1	.220	1.117
	R48	-.232	.142	2.658	1	.103	.793
	R48	-.232	.142	2.658	1	.103	.793
	R49	.119	.111	1.141	1	.285	1.126
	R49	.119	.111	1.141	1	.285	1.126
	N52			4.315	3	.229	
	N52			4.315	3	.229	
	N52(1)	-.441	.254	3.023	1	.082	.643
	N52(1)	-.441	.254	3.023	1	.082	.643
	N52(2)	-.034	.152	.051	1	.821	.966
	N52(2)	-.034	.152	.051	1	.821	.966
	N52(3)	-.137	.124	1.211	1	.271	.872
	N52(3)	-.137	.124	1.211	1	.271	.872
	N53			5.537	3	.136	
	N53			5.537	3	.136	
	N53(1)	.054	.196	.076	1	.783	1.056
	N53(1)	.054	.196	.076	1	.783	1.056
	N53(2)	.273	.161	2.883	1	.090	1.314

						4
N53(3)	.268	.144	3.439	1	.064	1.307
N54			1.956	3	.582	
N54(1)	-.178	.202	.780	1	.377	.837
N54(2)	-.099	.146	.462	1	.497	.906
N54(3)	.019	.117	.027	1	.869	1.020
N55			7.416	3	.060	
N55(1)	-.503	.241	4.348	1	.037	.605
N55(2)	-.478	.224	4.572	1	.032	.620
N55(3)	-.235	.218	1.169	1	.280	.790
N58			3.932	2	.140	
N58(1)	-.893	.487	3.358	1	.067	.409
N58(2)	-.724	.496	2.128	1	.145	.485
N59			.576	2	.750	
N59(1)	.169	.276	.373	1	.542	1.184
N59(2)	.086	.303	.081	1	.776	1.090
N60			2.543	2	.280	
N60(1)	.251	.282	.792	1	.374	1.285
N60(2)	.555	.357	2.417	1	.120	1.742
N61			1.243	3	.743	
N61(1)	-.033	.318	.011	1	.916	.967
N61(2)	-.250	.233	1.155	1	.282	.779
N61(3)	-.017	.105	.026	1	.873	.983
Z_ED_AVG	-.059	.052	1.317	1	.251	.942
ZEMP_AVG	-.150	.057	6.830	1	.009	.861
ZCH_AVG	.126	.085	2.187	1	.139	1.134
ZSA_AVG	.130	.080	2.634	1	.105	1.138
Constant	1.421	.674	4.440	1	.035	4.139
Constant	1.421	.674	4.440	1	.035	4.139

a Variable(s) entered on step 1: GENDER, M_STATUS, AGE_IN, LEGSTAT, GANG, JUVENILE, R38, R42, R43, R44, R45, R46, R47, R48, R49, N52, N53, N54, N55, N58, N59, N60, N61, Z_ED_AVG, ZEMP_AVG, ZCH_AVG, ZSA_AVG.

Cohort and Index Variables with Rearrest Forward Conditional

Classification Table[a]

			Predicted		
			Arrested Ever Over 3 Years		Percentage Correct
Observed			Not Arrested	Arrested	
Step 1	Arrested Ever Over 3 Years	Not Arrested	2107	377	84.8
		Arrested	664	244	26.9
	Overall Percentage				69.3
Step 2	Arrested Ever Over 3 Years	Not Arrested	1931	553	77.7
		Arrested	557	351	38.7
	Overall Percentage				67.3
Step 3	Arrested Ever Over 3 Years	Not Arrested	1979	505	79.7
		Arrested	562	346	38.1
	Overall Percentage				68.5
Step 4	Arrested Ever Over 3 Years	Not Arrested	1944	540	78.3
		Arrested	549	359	39.5
	Overall Percentage				67.9
Step 5	Arrested Ever Over 3 Years	Not Arrested	1966	518	79.1
		Arrested	536	372	41.0
	Overall Percentage				68.9
Step 6	Arrested Ever Over 3 Years	Not Arrested	1987	497	80.0
		Arrested	546	362	39.9
	Overall Percentage				69.3
Step 7	Arrested Ever Over 3 Years	Not Arrested	1985	499	79.9
		Arrested	557	351	38.7
	Overall Percentage				68.9
Step 8	Arrested Ever Over 3 Years	Not Arrested	1978	506	79.6
		Arrested	553	355	39.1
	Overall Percentage				68.8
Step 9	Arrested Ever Over 3 Years	Not Arrested	1969	515	79.3
		Arrested	539	369	40.6
	Overall Percentage				68.9

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R43	-.052	.005	92.834	1	.000	.949
	Constant	.219	.128	2.918	1	.088	1.245
Step 2	R43	-.047	.005	75.244	1	.000	.954
	ZEMP_AVG	-.257	.047	30.285	1	.000	.773
	Constant	.084	.130	.423	1	.515	1.088
Step 3	R43	-.047	.005	76.484	1	.000	.954
	N55			23.496	3	.000	
	N55(1)	-.789	.206	14.645	1	.000	.454
	N55(2)	-.604	.190	10.124	1	.001	.547
	N55(3)	-.315	.201	2.471	1	.116	.729
	ZEMP_AVG	-.220	.048	21.432	1	.000	.803
	Constant	.650	.223	8.518	1	.004	1.915
Step 4	GENDER(1)	.414	.107	14.986	1	.000	1.512
	R43	-.042	.005	60.540	1	.000	.958
	N55			24.395	3	.000	
	N55(1)	-.802	.207	15.047	1	.000	.448
	N55(2)	-.619	.190	10.565	1	.001	.539
	N55(3)	-.320	.201	2.529	1	.112	.726
	ZEMP_AVG	-.250	.048	26.778	1	.000	.779
	Constant	.216	.248	.755	1	.385	1.241
Step 5	GENDER(1)	.406	.107	14.383	1	.000	1.501
	LEGSTAT(1)	-.451	.122	13.719	1	.000	.637
	R43	-.042	.005	57.958	1	.000	.959
	N55			23.183	3	.000	
	N55(1)	-.784	.207	14.288	1	.000	.457
	N55(2)	-.615	.191	10.377	1	.001	.541
	N55(2)	-.615	.191	10.377	1	.001	.541
	N55(3)	-.320	.202	2.510	1	.113	.726
	N55(3)	-.320	.202	2.510	1	.113	.726
	ZEMP_AVG	-.250	.048	26.672	1	.000	.779
	ZEMP_AVG	-.250	.048	26.672	1	.000	.779
	Constant	.595	.269	4.886	1	.027	1.813
	Constant	.595	.269	4.886	1	.027	1.813
Step 6	GENDER(1)	.384	.107	12.829	1	.000	1.469
Step 6	GENDER(1)	.384	.107	12.829	1	.000	1.469
	LEGSTAT(1)	-.464	.122	14.447	1	.000	.629
	LEGSTAT(1)	-.464	.122	14.447	1	.000	.629
	GANG(1)	-.651	.190	11.759	1	.001	.522
	GANG(1)	-.651	.190	11.759	1	.001	.522
	R43	-.039	.005	51.670	1	.000	.961
	R43	-.039	.005	51.670	1	.000	.961
	N55			23.470	3	.000	
	N55			23.470	3	.000	
	N55(1)	-.786	.208	14.298	1	.000	.456
	N55(1)	-.786	.208	14.298	1	.000	.456
	N55(2)	-.625	.192	10.640	1	.001	.535
	N55(2)	-.625	.192	10.640	1	.001	.535
	N55(3)	-.322	.202	2.537	1	.111	.724
	N55(3)	-.322	.202	2.537	1	.111	.724
	ZEMP_AVG	-.233	.049	22.850	1	.000	.792
	ZEMP_AVG	-.233	.049	22.850	1	.000	.792

	Constant	1.202	.323	13.821	1	.000	3.326
Step 7	GENDER(1)	.364	.108	11.385	1	.001	1.439
	LEGSTAT(1)	-.419	.124	11.450	1	.001	.658
	GANG(1)	-.666	.190	12.275	1	.000	.514
	R43	-.038	.006	48.365	1	.000	.962
	N55			17.995	3	.000	
	N55(1)	-.718	.210	11.690	1	.001	.488
	N55(2)	-.567	.193	8.605	1	.003	.567
	N55(3)	-.305	.203	2.265	1	.132	.737
	ZEMP_AVG	-.223	.049	20.770	1	.000	.800
	ZSA_AVG	.162	.069	5.574	1	.018	1.176
	Constant	1.113	.326	11.686	1	.001	3.044
Step 8	GENDER(1)	.375	.108	12.023	1	.001	1.454
	AGE_IN	-.013	.006	4.462	1	.035	.987
	LEGSTAT(1)	-.446	.125	12.848	1	.000	.640
	GANG(1)	-.626	.191	10.748	1	.001	.535
	R43	-.028	.007	13.629	1	.000	.973
	N55			19.756	3	.000	
	N55(1)	-.746	.211	12.562	1	.000	.474
	N55(2)	-.594	.194	9.391	1	.002	.552
	N55(3)	-.309	.203	2.323	1	.127	.734
	ZEMP_AVG	-.210	.049	18.056	1	.000	.811
	ZSA_AVG	.198	.071	7.866	1	.005	1.219
	Constant	1.230	.331	13.823	1	.000	3.423
Step 9	GENDER(1)	.374	.108	11.899	1	.001	1.453
	AGE_IN	-.013	.006	4.297	1	.038	.987
	LEGSTAT(1)	-.444	.125	12.646	1	.000	.642
	GANG(1)	-.625	.192	10.664	1	.001	.535
	GANG(1)	-.625	.192	10.664	1	.001	.535
	R43	-.027	.008	13.312	1	.000	.973
	R43	-.027	.008	13.312	1	.000	.973
	N53			8.214	3	.042	
	N53			8.214	3	.042	
	N53(1)	-.168	.181	.860	1	.354	.846
	N53(1)	-.168	.181	.860	1	.354	.846
	N53(2)	.147	.146	1.006	1	.316	1.158
	N53(2)	.147	.146	1.006	1	.316	1.158
	N53(3)	.203	.137	2.200	1	.138	1.225
	N53(3)	.203	.137	2.200	1	.138	1.225
	N55			16.444	3	.001	
	N55			16.444	3	.001	
	N55(1)	-.720	.221	10.593	1	.001	.487
	N55(1)	-.720	.221	10.593	1	.001	.487
	N55(2)	-.655	.203	10.426	1	.001	.520
	N55(2)	-.655	.203	10.426	1	.001	.520
	N55(3)	-.355	.205	2.989	1	.084	.701
	N55(3)	-.355	.205	2.989	1	.084	.701
	ZEMP_AVG	-.198	.050	15.564	1	.000	.820
	ZEMP_AVG	-.198	.050	15.564	1	.000	.820
	ZSA_AVG	.198	.071	7.709	1	.005	1.219
	ZSA_AVG	.198	.071	7.709	1	.005	1.219
	Constant	1.146	.337	11.584	1	.001	3.145
	Constant	1.146	.337	11.584	1	.001	3.145

a Variable(s) entered on step 1: R43.
b Variable(s) entered on step 2: ZEMP_AVG.
c Variable(s) entered on step 3: N55.
d Variable(s) entered on step 4: GENDER.
e Variable(s) entered on step 5: LEGSTAT.
f Variable(s) entered on step 6: GANG.
g Variable(s) entered on step 7: ZSA_AVG.
h Variable(s) entered on step 8: AGE_IN.
i Variable(s) entered on step 9: N53.

Cohort and Index Variables with Rearrest Reduced by Selecting Strongest Correlates

Classification Table[a]

	Observed		Predicted: Arrested Ever Over 3 Years: Not Arrested	Predicted: Arrested Ever Over 3 Years: Arrested	Predicted: Percentage Correct
Step 1	Arrested Ever Over 3 Years	Not Arrested	2005	482	80.6
		Arrested	537	374	41.1
	Overall Percentage				70.0

a. The cut value is .330

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	.329	.111	8.743	1	.003	1.389
	M_STATUS			5.619	2	.060	
	M_STATUS(1)	.135	.106	1.631	1	.202	1.145
	M_STATUS(2)	.289	.122	5.589	1	.018	1.335
	AGE_IN	-.025	.008	10.183	1	.001	.976
	LEGSTAT(1)	-.376	.134	7.810	1	.005	.687
	GANG(1)	-.588	.195	9.087	1	.003	.556
	JUVENILE(1)	-.277	.124	4.970	1	.026	.758
	R43	-.018	.009	4.189	1	.041	.982
	R44	.089	.046	3.777	1	.052	1.093
	R46	-.213	.093	5.216	1	.022	.808
	R48	-.283	.139	4.155	1	.042	.754
	N52			5.487	3	.139	
	N52(1)	-.542	.244	4.954	1	.026	.582
	N52(2)	-.046	.145	.102	1	.750	.955
	N52(3)	-.093	.120	.602	1	.438	.911
	N55			10.271	3	.016	
	N55(1)	-.563	.224	6.304	1	.012	.569
	N55(1)	-.563	.224	6.304	1	.012	.569
	N55(2)	-.451	.208	4.686	1	.030	.637
	N55(2)	-.451	.208	4.686	1	.030	.637
	N55(3)	-.219	.211	1.074	1	.300	.804
	N55(3)	-.219	.211	1.074	1	.300	.804
	N58			3.988	2	.136	
	N58			3.988	2	.136	
	N58(1)	-.834	.478	3.045	1	.081	.434
	N58(1)	-.834	.478	3.045	1	.081	.434
	N58(2)	-.642	.490	1.714	1	.190	.526
	N58(2)	-.642	.490	1.714	1	.190	.526
	ZCH_AVG	.128	.083	2.390	1	.122	1.137
	ZCH_AVG	.128	.083	2.390	1	.122	1.137
	ZEMP_AVG	-.179	.055	10.710	1	.001	.836
	ZEMP_AVG	-.179	.055	10.710	1	.001	.836
	ZSA_AVG	.157	.072	4.705	1	.030	1.170

						0
Constant	2.193	.559	15.420	1	.000	8.965

a Variable(s) entered on step 1: GENDER, M_STATUS, AGE_IN, LEGSTAT, GANG, JUVENILE, R43, R44, R46, R48, N52, N55, N58, ZCH_AVG, ZEMP_AVG, ZSA_AVG.

Wisconsin Risk Variables with Revocation

Classification Table[a]

	Observed		Predicted		
			Revoked Ever Over 3 years		Percentage Correct
			No	Yes	
Step 1	Revoked Ever Over 3 years	No	1832	394	82.3
		Yes	386	307	44.3
	Overall Percentage				73.3

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	.080	.029	7.327	1	.007	1.083
	R39	-.008	.001	36.348	1	.000	.992
	R40			6.771	2	.034	
	R40(1)	-.134	.123	1.200	1	.273	.874
	R40(2)	.173	.129	1.788	1	.181	1.189
	R41			47.016	2	.000	
	R41(1)	-.771	.113	46.811	1	.000	.463
	R41(2)	-.351	.131	7.203	1	.007	.704
	R42			6.788	2	.034	
	R42(1)	-.379	.145	6.787	1	.009	.685
	R42(2)	-.282	.143	3.889	1	.049	.755
	R43	-.046	.007	40.035	1	.000	.955
	R44	-.050	.052	.926	1	.336	.952
	R45	.304	.107	8.012	1	.005	1.355
	R46	-.148	.073	4.083	1	.043	.862
	R47(1)	-.442	.101	19.068	1	.000	.643
	R48(1)	.023	.151	.023	1	.881	1.023
	R49(1)	-.369	.118	9.718	1	.002	.691
	R49(1)	-.369	.118	9.718	1	.002	.691
	Constant	1.578	.310	25.920	1	.000	4.846
	Constant	1.578	.310	25.920	1	.000	4.846

a Variable(s) entered on step 1: R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49.

Wisconsin Need Variables with Revocation

Classification Table[a]

	Observed		Predicted		
			Revoked Ever Over 3 years		Percentage Correct
			No	Yes	
Step 1	Revoked Ever Over 3 years	No	2128	479	81.6
		Yes	452	341	43.0
	Overall Percentage				72.6

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N50			11.276	3	.010	
	N50(1)	.037	.196	.035	1	.851	1.037
	N50(2)	.233	.197	1.398	1	.237	1.262
	N50(3)	.377	.186	4.117	1	.042	1.458
	N51			33.211	3	.000	
	N51(1)	-.636	.205	9.630	1	.002	.530
	N51(2)	-.586	.176	11.135	1	.001	.556
	N51(3)	-.052	.163	.102	1	.749	.949
	N52			.503	3	.918	
	N52(1)	-.151	.277	.298	1	.585	.860
	N52(2)	.035	.160	.047	1	.828	1.035
	N52(3)	.012	.125	.009	1	.925	1.012
	N53			4.606	3	.203	
	N53(1)	-.061	.202	.090	1	.764	.941
	N53(2)	.081	.162	.250	1	.617	1.084
	N53(3)	.211	.146	2.089	1	.148	1.235
	N54			19.864	3	.000	
	N54(1)	-.705	.215	10.804	1	.001	.494
	N54(1)	-.705	.215	10.804	1	.001	.494
	N54(2)	-.584	.146	15.945	1	.000	.558
	N54(2)	-.584	.146	15.945	1	.000	.558
	N54(3)	-.284	.114	6.192	1	.013	.753
	N54(3)	-.284	.114	6.192	1	.013	.753
	N55			.428	3	.934	
	N55			.428	3	.934	
	N55(1)	-.148	.246	.360	1	.548	.863
	N55(1)	-.148	.246	.360	1	.548	.863
	N55(2)	-.120	.225	.282	1	.595	.887
	N55(2)	-.120	.225	.282	1	.595	.887
	N55(3)	-.136	.222	.377	1	.539	.873
	N55(3)	-.136	.222	.377	1	.539	.873
	N56			1.646	2	.439	
	N56			1.646	2	.439	

N56(1)	-.097	.124	.613	1	.434	.908
N56(2)	.033	.120	.075	1	.785	1.033
N57			29.300	2	.000	
N57(1)	-.622	.123	25.588	1	.000	.537
N57(2)	-.228	.129	3.147	1	.076	.796
N58			.365	2	.833	
N58(1)	-.289	.511	.320	1	.571	.749
N58(2)	-.236	.516	.210	1	.647	.790
N59			2.213	2	.331	
N59(1)	.226	.277	.663	1	.415	1.253
N59(2)	.015	.308	.002	1	.962	1.015
N60			.686	2	.710	
N60(1)	.241	.291	.685	1	.408	1.273
N60(2)	.220	.387	.323	1	.570	1.246
N61			14.154	3	.003	
N61(1)	-.987	.448	4.864	1	.027	.373
N61(2)	-.772	.283	7.453	1	.006	.462
N61(3)	-.309	.108	8.174	1	.004	.734
Constant	-.213	.585	.132	1	.716	.809

a Variable(s) entered on step 1: N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Wisconsin Risk and Need Variables with Revocation

Classification Table[a]

			Predicted		
			Revoked Ever Over 3 years		Percentage Correct
	Observed		No	Yes	
Step 1	Revoked Ever Over 3 years	No	1808	415	81.3
		Yes	336	356	51.4
	Overall Percentage				74.2

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	.068	.030	4.993	1	.025	1.070
	R39	-.003	.002	3.365	1	.067	.997
	R40			5.155	2	.076	
	R40(1)	.339	.193	3.084	1	.079	1.404
	R40(2)	.359	.162	4.913	1	.027	1.432
	R41			4.234	2	.120	
	R41(1)	-.346	.183	3.576	1	.059	.708
	R41(2)	-.223	.147	2.307	1	.129	.800
	R42			2.608	2	.271	
	R42(1)	-.180	.156	1.329	1	.249	.835
	R42(2)	-.240	.149	2.598	1	.107	.787
	R43	-.038	.008	24.171	1	.000	.963
	R44	-.060	.053	1.304	1	.254	.942
	R45	.308	.109	7.985	1	.005	1.361
	R46	-.137	.074	3.428	1	.064	.872
	R47(1)	-.415	.104	15.754	1	.000	.661
	R48(1)	.062	.159	.154	1	.695	1.064
	R49(1)	-.389	.129	9.109	1	.003	.678
	R49(1)	-.389	.129	9.109	1	.003	.678
	N50			4.833	3	.184	
	N50			4.833	3	.184	
	N50(1)	.096	.218	.196	1	.658	1.101
	N50(1)	.096	.218	.196	1	.658	1.101
	N50(2)	.185	.219	.713	1	.399	1.203
	N50(2)	.185	.219	.713	1	.399	1.203
	N50(3)	.326	.206	2.498	1	.114	1.386
	N50(3)	.326	.206	2.498	1	.114	1.386
	N51			9.472	3	.024	
	N51			9.472	3	.024	
	N51(1)	-.349	.253	1.907	1	.167	.705
	N51(1)	-.349	.253	1.907	1	.167	.705
	N51(2)	-.404	.216	3.501	1	.061	.668
	N51(2)	-.404	.216	3.501	1	.061	.668

N51(3)	.000	.178	.000	1	.998	1.000
N52			1.835	3	.607	
N52(1)	-.156	.305	.261	1	.609	.856
N52(2)	.092	.176	.275	1	.600	1.097
N52(3)	-.066	.138	.231	1	.631	.936
N53			6.003	3	.111	
N53(1)	-.104	.227	.209	1	.647	.901
N53(2)	.094	.179	.279	1	.598	1.099
N53(3)	.254	.160	2.531	1	.112	1.289
N54			3.189	3	.363	
N54(1)	-.222	.236	.881	1	.348	.801
N54(2)	-.253	.166	2.316	1	.128	.776
N54(3)	-.048	.129	.139	1	.709	.953
N55			.203	3	.977	
N55(1)	-.102	.275	.137	1	.711	.903
N55(2)	-.071	.254	.078	1	.780	.932
N55(3)	-.097	.250	.149	1	.700	.908
N56			3.646	2	.162	
N56(1)	-.409	.216	3.579	1	.059	.664
N56(2)	-.192	.166	1.336	1	.248	.825
N57			4.776	2	.092	
N57(1)	-.442	.202	4.776	1	.029	.642
N57(2)	-.189	.153	1.525	1	.217	.828
N58			.176	2	.916	
N58(1)	.079	.791	.010	1	.920	1.083
N58(2)	.160	.793	.041	1	.840	1.173
N59			.835	2	.659	
N59(1)	.168	.421	.159	1	.690	1.183
N59(1)	.168	.421	.159	1	.690	1.183
N59(2)	.000	.453	.000	1	1.000	1.000
N59(2)	.000	.453	.000	1	1.000	1.000
N60			2.046	2	.360	
N60			2.046	2	.360	
N60(1)	.193	.319	.365	1	.545	1.212
N60(1)	.193	.319	.365	1	.545	1.212
N60(2)	-.230	.433	.281	1	.596	.795
N60(2)	-.230	.433	.281	1	.596	.795
N61			10.207	3	.017	
N61			10.207	3	.017	
N61(1)	-1.404	.611	5.270	1	.022	.246
N61(1)	-1.404	.611	5.270	1	.022	.246
N61(2)	-.648	.292	4.917	1	.027	.523
N61(2)	-.648	.292	4.917	1	.027	.523
N61(3)	-.240	.120	4.008	1	.045	.786
N61(3)	-.240	.120	4.008	1	.045	.786
Constant	.846	.888	.909	1	.340	2.331
Constant	.846	.888	.909	1	.340	2.331

a Variable(s) entered on step 1: R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Wisconsin Risk and Need Variables with Revocation Forward Conditional

Classification Table[a]

Observed			Predicted: Revoked Ever Over 3 years No	Predicted: Revoked Ever Over 3 years Yes	Percentage Correct
Step 1	Revoked Ever Over 3 years	No	1937	286	87.1
		Yes	497	195	28.2
	Overall Percentage				73.1
Step 2	Revoked Ever Over 3 years	No	1820	403	81.9
		Yes	409	283	40.9
	Overall Percentage				72.1
Step 3	Revoked Ever Over 3 years	No	1829	394	82.3
		Yes	379	313	45.2
	Overall Percentage				73.5
Step 4	Revoked Ever Over 3 years	No	1808	415	81.3
		Yes	364	328	47.4
	Overall Percentage				73.3
Step 5	Revoked Ever Over 3 years	No	1819	404	81.8
		Yes	364	328	47.4
	Overall Percentage				73.7
Step 6	Revoked Ever Over 3 years	No	1822	401	82.0
		Yes	362	330	47.7
	Overall Percentage				73.8
Step 7	Revoked Ever Over 3 years	No	1819	404	81.8
		Yes	363	329	47.5
	Overall Percentage				73.7
Step 8	Revoked Ever Over 3 years	No	1807	416	81.3
		Yes	360	332	48.0
	Overall Percentage				73.4

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N57			124.071	2	.000	
	N57(1)	-1.212	.113	114.816	1	.000	.298
	N57(2)	-.520	.124	17.562	1	.000	.595
	Constant	-.383	.093	17.007	1	.000	.682
	Constant	-.383	.093	17.007	1	.000	.682
Step 2	R43	-.061	.007	76.980	1	.000	.941

	N57			95.823	2	.000	
	N57(1)	-1.094	.115	90.151	1	.000	.335
	N57(2)	-.500	.126	15.704	1	.000	.607
	Constant	.965	.178	29.336	1	.000	2.624
Step 3	R43	-.054	.007	59.297	1	.000	.947
	N51			58.150	3	.000	
	N51(1)	-.934	.179	27.329	1	.000	.393
	N51(2)	-.727	.165	19.468	1	.000	.483
	N51(3)	-.126	.149	.716	1	.397	.882
	N57			69.346	2	.000	
	N57(1)	-.942	.118	63.772	1	.000	.390
	N57(2)	-.397	.128	9.569	1	.002	.672
	Constant	1.118	.208	28.878	1	.000	3.058
Step 4	R43	-.052	.007	55.228	1	.000	.949
	N51			42.031	3	.000	
	N51(1)	-.773	.181	18.155	1	.000	.462
	N51(2)	-.602	.167	12.955	1	.000	.548
	N51(3)	-.067	.150	.197	1	.657	.936
	N57			42.098	2	.000	
	N57(1)	-.760	.125	36.778	1	.000	.468
	N57(2)	-.284	.133	4.593	1	.032	.753
	N61			21.283	3	.000	
	N61(1)	-1.697	.598	8.061	1	.005	.183
	N61(2)	-.819	.276	8.804	1	.003	.441
	N61(3)	-.333	.102	10.647	1	.001	.717
	Constant	1.104	.208	28.102	1	.000	3.016
Step 5	R43	-.045	.007	37.555	1	.000	.956
	R47(1)	-.348	.097	12.912	1	.000	.706
	R47(1)	-.348	.097	12.912	1	.000	.706
	N51			38.025	3	.000	
	N51			38.025	3	.000	
	N51(1)	-.747	.182	16.822	1	.000	.474
	N51(1)	-.747	.182	16.822	1	.000	.474
	N51(2)	-.590	.168	12.343	1	.000	.554
	N51(2)	-.590	.168	12.343	1	.000	.554
	N51(3)	-.078	.150	.268	1	.605	.925
	N51(3)	-.078	.150	.268	1	.605	.925
	N57			43.775	2	.000	
	N57			43.775	2	.000	
	N57(1)	-.775	.126	37.712	1	.000	.461
	N57(1)	-.775	.126	37.712	1	.000	.461
	N57(2)	-.276	.133	4.285	1	.038	.759
	N57(2)	-.276	.133	4.285	1	.038	.759
	N61			21.421	3	.000	
	N61			21.421	3	.000	
	N61(1)	-1.687	.598	7.949	1	.005	.185
	N61(1)	-1.687	.598	7.949	1	.005	.185
	N61(2)	-.834	.276	9.119	1	.003	.434
	N61(2)	-.834	.276	9.119	1	.003	.434
	N61(3)	-.336	.102	10.746	1	.001	.715
	N61(3)	-.336	.102	10.746	1	.001	.715
	Constant	1.114	.207	28.908	1	.000	3.046
	Constant	1.114	.207	28.908	1	.000	3.046

Step 6	R43	-.043	.007	34.526	1	.000	.958
	R47(1)	-.361	.097	13.767	1	.000	.697
	R49(1)	-.328	.116	8.049	1	.005	.720
	N51			38.752	3	.000	
	N51(1)	-.742	.183	16.494	1	.000	.476
	N51(2)	-.590	.168	12.299	1	.000	.554
	N51(3)	-.065	.151	.186	1	.666	.937
	N57			47.573	2	.000	
	N57(1)	-.819	.128	41.218	1	.000	.441
	N57(2)	-.296	.134	4.892	1	.027	.744
	N61			18.729	3	.000	
	N61(1)	-1.624	.599	7.363	1	.007	.197
	N61(2)	-.788	.277	8.127	1	.004	.455
	N61(3)	-.307	.103	8.875	1	.003	.736
	Constant	1.343	.223	36.434	1	.000	3.831
Step 7	R38	.066	.029	4.987	1	.026	1.068
	R43	-.042	.007	33.390	1	.000	.959
	R47(1)	-.349	.097	12.831	1	.000	.705
	R49(1)	-.331	.116	8.168	1	.004	.719
	N51			36.731	3	.000	
	N51(1)	-.708	.183	14.907	1	.000	.493
	N51(2)	-.575	.169	11.579	1	.001	.563
	N51(3)	-.052	.151	.120	1	.729	.949
	N57			45.181	2	.000	
	N57(1)	-.797	.128	38.701	1	.000	.451
	N57(2)	-.280	.134	4.335	1	.037	.756
	N61			17.629	3	.001	
	N61(1)	-1.610	.599	7.238	1	.007	.200
	N61(1)	-1.610	.599	7.238	1	.007	.200
	N61(2)	-.765	.277	7.633	1	.006	.465
	N61(2)	-.765	.277	7.633	1	.006	.465
	N61(3)	-.293	.103	8.041	1	.005	.746
	N61(3)	-.293	.103	8.041	1	.005	.746
	Constant	1.217	.229	28.165	1	.000	3.378
	Constant	1.217	.229	28.165	1	.000	3.378
Step 8	R38	.065	.030	4.856	1	.028	1.067
Step 8	R38	.065	.030	4.856	1	.028	1.067
	R43	-.038	.007	27.211	1	.000	.962
	R43	-.038	.007	27.211	1	.000	.962
	R47(1)	-.337	.098	11.907	1	.001	.714
	R47(1)	-.337	.098	11.907	1	.001	.714
	R49(1)	-.349	.116	9.004	1	.003	.705
	R49(1)	-.349	.116	9.004	1	.003	.705
	N51			29.015	3	.000	
	N51			29.015	3	.000	
	N51(1)	-.612	.188	10.570	1	.001	.542
	N51(1)	-.612	.188	10.570	1	.001	.542
	N51(2)	-.513	.173	8.858	1	.003	.598
	N51(2)	-.513	.173	8.858	1	.003	.598
	N51(3)	-.021	.153	.020	1	.889	.979
	N51(3)	-.021	.153	.020	1	.889	.979
	N54			8.668	3	.034	
	N54			8.668	3	.034	

N54(1)	-.441	.225	3.854	1	.050	.643
N54(2)	-.386	.158	5.994	1	.014	.680
N54(3)	-.097	.125	.604	1	.437	.907
N57			35.148	2	.000	
N57(1)	-.722	.131	30.251	1	.000	.486
N57(2)	-.256	.136	3.554	1	.059	.774
N61			12.961	3	.005	
N61(1)	-1.461	.602	5.884	1	.015	.232
N61(2)	-.665	.279	5.666	1	.017	.514
N61(3)	-.246	.106	5.429	1	.020	.782
Constant	1.189	.232	26.309	1	.000	3.283

a Variable(s) entered on step 1: N57.
b Variable(s) entered on step 2: R43.
c Variable(s) entered on step 3: N51.
d Variable(s) entered on step 4: N61.
e Variable(s) entered on step 5: R47.
f Variable(s) entered on step 6: R49.
g Variable(s) entered on step 7: R38.
h Variable(s) entered on step 8: N54.

Wisconsin Best 11 Variables with Revocation

Classification Table[a]

Observed			Predicted: Revoked Ever Over 3 years: No	Predicted: Revoked Ever Over 3 years: Yes	Predicted: Percentage Correct
Step 1	Revoked Ever Over 3 years	No	1814	411	81.5
		Yes	347	345	49.9
	Overall Percentage				74.0

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	.066	.029	5.023	1	.025	1.068
	R39	-.004	.002	4.369	1	.037	.996
	R40			4.495	2	.106	
	R40(1)	-.006	.120	.002	1	.962	.994
	R40(2)	.225	.129	3.045	1	.081	1.253
	R41			4.134	2	.127	
	R41(1)	-.332	.178	3.477	1	.062	.718
	R41(2)	-.215	.144	2.218	1	.136	.807
	R43	-.043	.007	34.036	1	.000	.958
	R46	-.110	.055	3.969	1	.046	.896
	R47(1)	-.405	.102	15.920	1	.000	.667
	R49	.354	.118	8.983	1	.003	1.424
	N51			12.277	3	.006	
	N51(1)	-.423	.226	3.513	1	.061	.655
	N51(2)	-.373	.192	3.766	1	.052	.689
	N51(3)	.033	.157	.044	1	.835	1.033
	N57			6.574	2	.037	
	N57(1)	-.501	.196	6.526	1	.011	.606
	N57(1)	-.501	.196	6.526	1	.011	.606
	N57(2)	-.185	.148	1.558	1	.212	.831
	N57(2)	-.185	.148	1.558	1	.212	.831
	N61			18.571	3	.000	
	N61			18.571	3	.000	
	N61(1)	-1.668	.601	7.706	1	.006	.189
	N61(1)	-1.668	.601	7.706	1	.006	.189
	N61(2)	-.789	.281	7.906	1	.005	.454
	N61(2)	-.789	.281	7.906	1	.005	.454
	N61(3)	-.322	.107	9.116	1	.003	.725
	N61(3)	-.322	.107	9.116	1	.003	.725
	Constant	1.014	.239	18.060	1	.000	2.756
	Constant	1.014	.239	18.060	1	.000	2.756

a Variable(s) entered on step 1: R38, R39, R40, R41, R43, R46, R47, R49, N51, N57, N61.

All Cohort Variables with Revocation

Classification Table[a]

Observed			Predicted: Revoked Ever Over 3 years: No	Predicted: Revoked Ever Over 3 years: Yes	Percentage Correct
Step 1	Revoked Ever Over 3 years	No	1809	374	82.9
		Yes	283	391	58.0
	Overall Percentage				77.0

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	OF_LEVEL			.513	2	.774	
	OF_LEVEL1	-.014	.155	.008	1	.929	.986
	OF_LEVEL2	.081	.144	.318	1	.573	1.085
	OFF_TYPE			3.490	3	.322	
	OFF_TYPE1	.286	.231	1.527	1	.217	1.331
	OFF_TYPE2	.040	.199	.041	1	.840	1.041
	OFF_TYPE3	-.170	.229	.549	1	.459	.844
	GENDER(1)	.671	.154	18.891	1	.000	1.956
	M_STATUS			10.259	2	.006	
	M_STATUS(1)	-.215	.198	1.179	1	.278	.807
	M_STATUS(2)	.369	.148	6.258	1	.012	1.447
	LIVING			11.811	3	.008	
	LIVING(1)	-.327	.201	2.635	1	.105	.721
	LIVING(2)	.034	.125	.073	1	.787	1.034
	LIVING(3)	-.619	.218	8.074	1	.004	.538
	AGE_IN	-.028	.011	6.320	1	.012	.972
	H_GRADE	-.038	.028	1.829	1	.176	.963
	HS_GED(1)	.281	.162	3.024	1	.082	1.325
	HS_GED(1)	.281	.162	3.024	1	.082	1.325
	EMPLOYED			11.630	3	.009	
	EMPLOYED			11.630	3	.009	
	EMPLOYED(1)	-.533	.168	10.034	1	.002	.587
	EMPLOYED(1)	-.533	.168	10.034	1	.002	.587
	EMPLOYED(2)	-.420	.165	6.510	1	.011	.657
	EMPLOYED(2)	-.420	.165	6.510	1	.011	.657
	EMPLOYED(3)	-.245	.607	.163	1	.686	.782
	EMPLOYED(3)	-.245	.607	.163	1	.686	.782
	IN_TYPE(1)	-.452	.257	3.105	1	.078	.636
	IN_TYPE(1)	-.452	.257	3.105	1	.078	.636
	INFLAD(1)	-.162	.131	1.528	1	.216	.851
	INFLAD(1)	-.162	.131	1.528	1	.216	.851
	ADTMTIN	-.203	.175	1.359	1	.244	.816
	ADTMTIN	-.203	.175	1.359	1	.244	.816

INJECT(1)	-.225	.239	.887	1	.346	.798
ALC12MO			3.200	3	.362	
ALC12MO(1)	-.257	.182	1.984	1	.159	.773
ALC12MO(2)	-.205	.183	1.258	1	.262	.815
ALC12MO(3)	-.024	.148	.026	1	.873	.977
CRACK(1)	-.575	.155	13.839	1	.000	.563
MARJ(1)	.123	.134	.841	1	.359	1.131
ANY_DRUG(1)	.345	.220	2.455	1	.117	1.411
GANG(1)	-.103	.238	.188	1	.665	.902
JUVENILE(1)	-.365	.160	5.168	1	.023	.694
FARRPROP	.162	.115	1.975	1	.160	1.176
FARRPERS	-.016	.147	.011	1	.916	.985
FARRTLT	-.064	.090	.517	1	.472	.938
MARRTLT	.069	.044	2.454	1	.117	1.072
MCONTLT	-.037	.068	.296	1	.587	.963
INCJAIL(1)	-.591	.147	16.153	1	.000	.554
INCTYC(1)	-.300	.315	.910	1	.340	.741
INCID(1)	-.118	.319	.138	1	.710	.888
FELPROBS	.029	.156	.035	1	.852	1.029
FELPROBR	-.177	.305	.337	1	.562	.838
R38	.052	.033	2.424	1	.119	1.053
R39	-.001	.002	.103	1	.748	.999
R40			6.601	2	.037	
R40(1)	.486	.220	4.905	1	.027	1.626
R40(2)	.434	.178	5.933	1	.015	1.544
R41			1.631	2	.442	
R41(1)	-.266	.224	1.404	1	.236	.767
R41(2)	-.172	.167	1.050	1	.305	.842
R41(2)	-.172	.167	1.050	1	.305	.842
R42			4.165	2	.125	
R42			4.165	2	.125	
R42(1)	-.289	.168	2.957	1	.086	.749
R42(1)	-.289	.168	2.957	1	.086	.749
R42(2)	-.321	.159	4.088	1	.043	.725
R42(2)	-.321	.159	4.088	1	.043	.725
R43	-.004	.012	.090	1	.765	.996
R43	-.004	.012	.090	1	.765	.996
R44	-.058	.066	.789	1	.374	.943
R44	-.058	.066	.789	1	.374	.943
R45	.173	.130	1.772	1	.183	1.189
R45	.173	.130	1.772	1	.183	1.189
R46	-.114	.110	1.073	1	.300	.893
R46	-.114	.110	1.073	1	.300	.893
R47	.260	.138	3.555	1	.059	1.297
R47	.260	.138	3.555	1	.059	1.297
R48	-.021	.181	.013	1	.909	.980
R48	-.021	.181	.013	1	.909	.980
R49	.023	.173	.018	1	.894	1.023
R49	.023	.173	.018	1	.894	1.023
N50			3.565	3	.312	
N50			3.565	3	.312	
N50(1)	.400	.287	1.942	1	.163	1.492
N50(1)	.400	.287	1.942	1	.163	1.492

N50(2)	.187	.246	.578	1	.447	1.206
N50(3)	.310	.225	1.897	1	.168	1.363
N51			.386	3	.943	
N51(1)	.041	.291	.020	1	.888	1.042
N51(2)	-.017	.255	.005	1	.945	.983
N51(3)	.064	.193	.109	1	.742	1.066
N52			.620	3	.892	
N52(1)	-.137	.316	.188	1	.665	.872
N52(2)	.012	.188	.004	1	.950	1.012
N52(3)	-.069	.148	.215	1	.643	.934
N53			6.227	3	.101	
N53(1)	-.021	.241	.007	1	.932	.980
N53(2)	.219	.192	1.299	1	.254	1.245
N53(3)	.327	.170	3.705	1	.054	1.387
N54			2.011	3	.570	
N54(1)	-.130	.250	.270	1	.603	.878
N54(2)	-.194	.181	1.152	1	.283	.824
N54(3)	-.005	.140	.001	1	.970	.995
N55			.787	3	.853	
N55(1)	-.231	.299	.600	1	.439	.793
N55(2)	-.155	.278	.309	1	.578	.857
N55(3)	-.099	.273	.132	1	.717	.906
N56			.195	2	.907	
N56(1)	-.106	.244	.188	1	.665	.900
N56(2)	-.046	.182	.064	1	.800	.955
N57			2.262	2	.323	
N57(1)	-.356	.243	2.155	1	.142	.700
N57(2)	-.117	.174	.454	1	.500	.890
N57(2)	-.117	.174	.454	1	.500	.890
N58			.270	2	.874	
N58			.270	2	.874	
N58(1)	.115	.900	.016	1	.898	1.122
N58(1)	.115	.900	.016	1	.898	1.122
N58(2)	.222	.899	.061	1	.805	1.248
N58(2)	.222	.899	.061	1	.805	1.248
N59			.227	2	.893	
N59			.227	2	.893	
N59(1)	.127	.456	.077	1	.781	1.135
N59(1)	.127	.456	.077	1	.781	1.135
N59(2)	.042	.487	.008	1	.931	1.043
N59(2)	.042	.487	.008	1	.931	1.043
N60			2.070	2	.355	
N60			2.070	2	.355	
N60(1)	.014	.348	.002	1	.969	1.014
N60(1)	.014	.348	.002	1	.969	1.014
N60(2)	-.479	.465	1.061	1	.303	.620
N60(2)	-.479	.465	1.061	1	.303	.620
N61			7.298	3	.063	
N61			7.298	3	.063	
N61(1)	-1.302	.620	4.411	1	.036	.272
N61(1)	-1.302	.620	4.411	1	.036	.272
N61(2)	-.534	.302	3.120	1	.077	.586
N61(2)	-.534	.302	3.120	1	.077	.586

N61(3)	-.204	.127	2.564	1	.109	.815
Constant	1.776	1.214	2.139	1	.144	5.904

a Variable(s) entered on step 1: OF_LEVEL, OFF_TYPE, GENDER, M_STATUS, LIVING, AGE_IN, H_GRADE, HS_GED, EMPLOYED, IN_TYPE, INFLAD, ADTMTIN, INJECT, ALC12MO, CRACK, MARJ, ANY_DRUG, GANG, JUVENILE, FARRPROP, FARRPERS, FARRTLT, MARRTLT, MCONTLT, INCJAIL, INCTYC, INCID, FELPROBS, FELPROBR, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Cohort Variables with Revocation Forward Conditional

Classification Table[a]

Observed			Predicted: Revoked Ever Over 3 years: No	Predicted: Revoked Ever Over 3 years: Yes	Predicted: Percentage Correct
Step 1	Revoked Ever Over 3 years	No	1502	681	68.8
		Yes	299	375	55.6
	Overall Percentage				65.7
Step 2	Revoked Ever Over 3 years	No	1853	330	84.9
		Yes	414	260	38.6
	Overall Percentage				74.0
Step 3	Revoked Ever Over 3 years	No	1802	381	82.5
		Yes	366	308	45.7
	Overall Percentage				73.9
Step 4	Revoked Ever Over 3 years	No	1764	419	80.8
		Yes	329	345	51.2
	Overall Percentage				73.8
Step 5	Revoked Ever Over 3 years	No	1806	377	82.7
		Yes	346	328	48.7
	Overall Percentage				74.7
Step 6	Revoked Ever Over 3 years	No	1764	419	80.8
		Yes	315	359	53.3
	Overall Percentage				74.3
Step 7	Revoked Ever Over 3 years	No	1762	421	80.7
		Yes	313	361	53.6
	Overall Percentage				74.3
Step 8	Revoked Ever Over 3 years	No	1760	423	80.6
		Yes	313	361	53.6
	Overall Percentage				74.2
Step 9	Revoked Ever Over 3 years	No	1770	413	81.1
		Yes	305	369	54.7
	Overall Percentage				74.9
Step 10	Revoked Ever Over 3 years	No	1777	406	81.4
		Yes	306	368	54.6
	Overall Percentage				75.1
Step 11	Revoked Ever Over 3 years	No	1780	403	81.5
		Yes	307	367	54.5
	Overall Percentage				75.1
Step 12	Revoked Ever Over 3 years	No	1779	404	81.5
		Yes	311	363	53.9
	Overall Percentage				75.0
Step 13	Revoked Ever Over 3 years	No	1779	404	81.5
		Yes	306	368	54.6
	Overall Percentage				75.1
Step 14	Revoked Ever Over 3 years	No	1785	398	81.8
		Yes	308	366	54.3
	Overall Percentage				75.3
Step 15	Revoked Ever Over 3 years	No	1794	389	82.2
		Yes	296	378	56.1
	Overall Percentage				76.0

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	EMPLOYED			131.453	3	.000	
	EMPLOYED(1)	-1.111	.099	126.783	1	.000	.329
	EMPLOYED(2)	-.741	.138	28.639	1	.000	.477
	EMPLOYED(3)	-.907	.556	2.659	1	.103	.404
	Constant	-.597	.064	86.086	1	.000	.551
Step 2	EMPLOYED			98.337	3	.000	
	EMPLOYED(1)	-.984	.101	95.078	1	.000	.374
	EMPLOYED(2)	-.646	.141	21.020	1	.000	.524
	EMPLOYED(3)	-.876	.565	2.402	1	.121	.416
	N57			82.421	2	.000	
	N57(1)	-1.010	.118	72.942	1	.000	.364
	N57(2)	-.379	.129	8.618	1	.003	.684
	Constant	-.022	.104	.044	1	.834	.978
Step 3	EMPLOYED			77.989	3	.000	
	EMPLOYED(1)	-.890	.102	75.567	1	.000	.411
	EMPLOYED(2)	-.581	.143	16.629	1	.000	.559
	EMPLOYED(3)	-.771	.570	1.826	1	.177	.463
	R43	-.056	.007	61.290	1	.000	.946
	N57			66.294	2	.000	
	N57(1)	-.926	.120	59.941	1	.000	.396
	N57(2)	-.373	.131	8.154	1	.004	.688
	Constant	1.170	.184	40.315	1	.000	3.222
Step 4	LIVING			39.478	3	.000	
	LIVING(1)	-.673	.132	25.810	1	.000	.510
	LIVING(2)	.024	.114	.046	1	.830	1.025
	LIVING(3)	-.581	.205	8.009	1	.005	.559
	LIVING(3)	-.581	.205	8.009	1	.005	.559
	EMPLOYED			54.913	3	.000	
	EMPLOYED			54.913	3	.000	
	EMPLOYED(1)	-.754	.105	51.575	1	.000	.470
	EMPLOYED(1)	-.754	.105	51.575	1	.000	.470
	EMPLOYED(2)	-.553	.144	14.753	1	.000	.575
	EMPLOYED(2)	-.553	.144	14.753	1	.000	.575
	EMPLOYED(3)	-.770	.576	1.787	1	.181	.463
	EMPLOYED(3)	-.770	.576	1.787	1	.181	.463
	R43	-.046	.007	39.784	1	.000	.955
	R43	-.046	.007	39.784	1	.000	.955
	N57			63.238	2	.000	
	N57			63.238	2	.000	
	N57(1)	-.911	.121	56.787	1	.000	.402
	N57(1)	-.911	.121	56.787	1	.000	.402
	N57(2)	-.361	.132	7.447	1	.006	.697
	N57(2)	-.361	.132	7.447	1	.006	.697
	Constant	1.096	.199	30.425	1	.000	2.991
	Constant	1.096	.199	30.425	1	.000	2.991
Step 5	LIVING			43.795	3	.000	
Step 5	LIVING			43.795	3	.000	
	LIVING(1)	-.692	.133	26.869	1	.000	.501
	LIVING(1)	-.692	.133	26.869	1	.000	.501
	LIVING(2)	.061	.115	.281	1	.596	1.063
	LIVING(2)	.061	.115	.281	1	.596	1.063

	LIVING(3)	-.609	.206	8.708	1	.003	.544
	EMPLOYED			52.805	3	.000	
	EMPLOYED(1)	-.748	.106	49.946	1	.000	.473
	EMPLOYED(2)	-.543	.145	13.961	1	.000	.581
	EMPLOYED(3)	-.661	.572	1.336	1	.248	.516
	INCJAIL(1)	-.606	.104	34.256	1	.000	.545
	R43	-.043	.007	33.724	1	.000	.958
	N57			53.145	2	.000	
	N57(1)	-.845	.123	47.567	1	.000	.429
	N57(2)	-.333	.134	6.196	1	.013	.717
	Constant	1.400	.207	45.733	1	.000	4.056
Step 6	GENDER(1)	.632	.137	21.340	1	.000	1.881
	LIVING			41.125	3	.000	
	LIVING(1)	-.668	.134	24.770	1	.000	.513
	LIVING(2)	.051	.116	.194	1	.659	1.052
	LIVING(3)	-.643	.208	9.610	1	.002	.525
	EMPLOYED			62.380	3	.000	
	EMPLOYED(1)	-.832	.108	59.697	1	.000	.435
	EMPLOYED(2)	-.578	.147	15.547	1	.000	.561
	EMPLOYED(3)	-.621	.580	1.148	1	.284	.537
	INCJAIL(1)	-.570	.104	30.035	1	.000	.566
	R43	-.035	.007	23.144	1	.000	.965
	N57			58.243	2	.000	
	N57(1)	-.907	.124	53.523	1	.000	.404
	N57(2)	-.397	.135	8.656	1	.003	.672
	Constant	.781	.244	10.266	1	.001	2.183
Step 7	GENDER(1)	.673	.138	23.631	1	.000	1.960
	LIVING			41.757	3	.000	
	LIVING			41.757	3	.000	
	LIVING(1)	-.669	.135	24.695	1	.000	.512
	LIVING(1)	-.669	.135	24.695	1	.000	.512
	LIVING(2)	.058	.116	.249	1	.618	1.060
	LIVING(2)	.058	.116	.249	1	.618	1.060
	LIVING(3)	-.653	.209	9.797	1	.002	.520
	LIVING(3)	-.653	.209	9.797	1	.002	.520
	EMPLOYED			58.983	3	.000	
	EMPLOYED			58.983	3	.000	
	EMPLOYED(1)	-.813	.108	56.514	1	.000	.444
	EMPLOYED(1)	-.813	.108	56.514	1	.000	.444
	EMPLOYED(2)	-.567	.147	14.810	1	.000	.567
	EMPLOYED(2)	-.567	.147	14.810	1	.000	.567
	EMPLOYED(3)	-.537	.581	.856	1	.355	.584
	EMPLOYED(3)	-.537	.581	.856	1	.355	.584
	CRACK(1)	-.537	.141	14.512	1	.000	.584
	CRACK(1)	-.537	.141	14.512	1	.000	.584
	INCJAIL(1)	-.574	.104	30.267	1	.000	.563
	INCJAIL(1)	-.574	.104	30.267	1	.000	.563
	R43	-.037	.007	25.057	1	.000	.963
	R43	-.037	.007	25.057	1	.000	.963
	N57			17.323	2	.000	
	N57			17.323	2	.000	
	N57(1)	-.584	.152	14.871	1	.000	.557
	N57(1)	-.584	.152	14.871	1	.000	.557

	N57(2)	-.213	.144	2.196	1	.138	.808
	Constant	.987	.251	15.415	1	.000	2.684
Step 8	GENDER(1)	.664	.139	22.755	1	.000	1.943
	LIVING			43.729	3	.000	
	LIVING(1)	-.711	.135	27.555	1	.000	.491
	LIVING(2)	.046	.117	.153	1	.695	1.047
	LIVING(3)	-.623	.209	8.844	1	.003	.536
	HS_GED(1)	.364	.098	13.665	1	.000	1.439
	EMPLOYED			50.578	3	.000	
	EMPLOYED(1)	-.758	.109	48.026	1	.000	.469
	EMPLOYED(2)	-.548	.148	13.733	1	.000	.578
	EMPLOYED(3)	-.515	.586	.772	1	.379	.598
	CRACK(1)	-.554	.142	15.316	1	.000	.575
	INCJAIL(1)	-.579	.105	30.576	1	.000	.561
	R43	-.033	.007	19.754	1	.000	.967
	N57			17.298	2	.000	
	N57(1)	-.589	.152	15.004	1	.000	.555
	N57(2)	-.221	.144	2.337	1	.126	.802
	Constant	.720	.261	7.602	1	.006	2.053
Step 9	GENDER(1)	.660	.140	22.306	1	.000	1.935
	LIVING			44.106	3	.000	
	LIVING(1)	-.699	.136	26.511	1	.000	.497
	LIVING(2)	.061	.117	.273	1	.601	1.063
	LIVING(3)	-.646	.209	9.518	1	.002	.524
	HS_GED(1)	.327	.099	10.942	1	.001	1.387
	EMPLOYED			42.884	3	.000	
	EMPLOYED(1)	-.704	.110	40.733	1	.000	.495
	EMPLOYED(2)	-.508	.149	11.678	1	.001	.602
	EMPLOYED(2)	-.508	.149	11.678	1	.001	.602
	EMPLOYED(3)	-.477	.588	.657	1	.417	.621
	EMPLOYED(3)	-.477	.588	.657	1	.417	.621
	CRACK(1)	-.540	.142	14.469	1	.000	.583
	CRACK(1)	-.540	.142	14.469	1	.000	.583
	INCJAIL(1)	-.528	.106	24.884	1	.000	.590
	INCJAIL(1)	-.528	.106	24.884	1	.000	.590
	R43	-.032	.007	18.404	1	.000	.968
	R43	-.032	.007	18.404	1	.000	.968
	N57			10.319	2	.006	
	N57			10.319	2	.006	
	N57(1)	-.451	.158	8.145	1	.004	.637
	N57(1)	-.451	.158	8.145	1	.004	.637
	N57(2)	-.138	.148	.868	1	.352	.871
	N57(2)	-.138	.148	.868	1	.352	.871
	N61			13.582	3	.004	
	N61			13.582	3	.004	
	N61(1)	-1.565	.602	6.763	1	.009	.209
	N61(1)	-1.565	.602	6.763	1	.009	.209
	N61(2)	-.656	.281	5.429	1	.020	.519
	N61(2)	-.656	.281	5.429	1	.020	.519
	N61(3)	-.243	.107	5.213	1	.022	.784
	N61(3)	-.243	.107	5.213	1	.022	.784
	Constant	.723	.261	7.679	1	.006	2.061
	Constant	.723	.261	7.679	1	.006	2.061

Step 10	GENDER(1)	.649	.140	21.555	1	.000	1.915
	LIVING			42.118	3	.000	
	LIVING(1)	-.681	.136	25.087	1	.000	.506
	LIVING(2)	.061	.117	.268	1	.605	1.063
	LIVING(3)	-.642	.210	9.363	1	.002	.526
	HS_GED(1)	.341	.099	11.753	1	.001	1.406
	EMPLOYED			38.916	3	.000	
	EMPLOYED(1)	-.675	.111	37.045	1	.000	.509
	EMPLOYED(2)	-.485	.149	10.557	1	.001	.616
	EMPLOYED(3)	-.440	.587	.561	1	.454	.644
	CRACK(1)	-.544	.142	14.577	1	.000	.580
	INCJAIL(1)	-.520	.106	24.043	1	.000	.594
	R43	-.026	.008	11.544	1	.001	.974
	R47	.287	.101	8.084	1	.004	1.333
	N57			11.090	2	.004	
	N57(1)	-.462	.159	8.487	1	.004	.630
	N57(2)	-.129	.149	.759	1	.384	.879
	N61			13.459	3	.004	
	N61(1)	-1.541	.601	6.569	1	.010	.214
	N61(2)	-.662	.281	5.535	1	.019	.516
	N61(3)	-.244	.107	5.210	1	.022	.783
	Constant	.434	.279	2.410	1	.121	1.543
Step 11	GENDER(1)	.662	.140	22.359	1	.000	1.938
	LIVING			33.525	3	.000	
	LIVING(1)	-.643	.137	22.035	1	.000	.526
	LIVING(2)	.024	.118	.041	1	.840	1.024
	LIVING(2)	.024	.118	.041	1	.840	1.024
	LIVING(3)	-.596	.211	7.981	1	.005	.551
	LIVING(3)	-.596	.211	7.981	1	.005	.551
	AGE_IN	-.022	.008	7.017	1	.008	.978
	AGE_IN	-.022	.008	7.017	1	.008	.978
	HS_GED(1)	.317	.100	10.052	1	.002	1.373
	HS_GED(1)	.317	.100	10.052	1	.002	1.373
	EMPLOYED			36.023	3	.000	
	EMPLOYED			36.023	3	.000	
	EMPLOYED(1)	-.652	.111	34.296	1	.000	.521
	EMPLOYED(1)	-.652	.111	34.296	1	.000	.521
	EMPLOYED(2)	-.467	.150	9.731	1	.002	.627
	EMPLOYED(2)	-.467	.150	9.731	1	.002	.627
	EMPLOYED(3)	-.474	.588	.651	1	.420	.622
	EMPLOYED(3)	-.474	.588	.651	1	.420	.622
	CRACK(1)	-.566	.143	15.643	1	.000	.568
	CRACK(1)	-.566	.143	15.643	1	.000	.568
	INCJAIL(1)	-.631	.114	30.451	1	.000	.532
	INCJAIL(1)	-.631	.114	30.451	1	.000	.532
	R43	-.010	.010	.986	1	.321	.990
	R43	-.010	.010	.986	1	.321	.990
	R47	.301	.101	8.797	1	.003	1.351
	R47	.301	.101	8.797	1	.003	1.351
	N57			10.781	2	.005	
	N57			10.781	2	.005	

	N57(1)	-.459	.159	8.327	1	.004	.632
	N57(2)	-.132	.149	.783	1	.376	.877
	N61			15.059	3	.002	
	N61(1)	-1.599	.602	7.045	1	.008	.202
	N61(2)	-.696	.282	6.102	1	.014	.498
	N61(3)	-.274	.108	6.438	1	.011	.761
	Constant	.767	.308	6.211	1	.013	2.153
Step 12	GENDER(1)	.682	.138	24.263	1	.000	1.977
	LIVING			33.711	3	.000	
	LIVING(1)	-.644	.137	22.164	1	.000	.525
	LIVING(2)	.024	.118	.042	1	.838	1.024
	LIVING(3)	-.596	.211	7.995	1	.005	.551
	AGE_IN	-.027	.006	17.598	1	.000	.973
	HS_GED(1)	.323	.100	10.479	1	.001	1.381
	EMPLOYED			35.976	3	.000	
	EMPLOYED(1)	-.651	.111	34.222	1	.000	.521
	EMPLOYED(2)	-.467	.150	9.744	1	.002	.627
	EMPLOYED(3)	-.486	.587	.683	1	.408	.615
	CRACK(1)	-.565	.143	15.583	1	.000	.569
	INCJAIL(1)	-.661	.110	35.844	1	.000	.517
	R47	.325	.098	10.921	1	.001	1.385
	N57			11.379	2	.003	
	N57(1)	-.471	.159	8.787	1	.003	.625
	N57(2)	-.135	.149	.827	1	.363	.873
	N61			15.773	3	.001	
	N61(1)	-1.619	.602	7.234	1	.007	.198
	N61(2)	-.710	.282	6.365	1	.012	.491
	N61(2)	-.710	.282	6.365	1	.012	.491
	N61(3)	-.282	.107	6.887	1	.009	.754
	N61(3)	-.282	.107	6.887	1	.009	.754
	Constant	.687	.296	5.393	1	.020	1.988
	Constant	.687	.296	5.393	1	.020	1.988
Step 13	GENDER(1)	.779	.142	29.970	1	.000	2.179
Step 13	GENDER(1)	.779	.142	29.970	1	.000	2.179
	M_STATUS			12.867	2	.002	
	M_STATUS			12.867	2	.002	
	M_STATUS(1)	-.217	.191	1.288	1	.256	.805
	M_STATUS(1)	-.217	.191	1.288	1	.256	.805
	M_STATUS(2)	.405	.140	8.383	1	.004	1.499
	M_STATUS(2)	.405	.140	8.383	1	.004	1.499
	LIVING			13.575	3	.004	
	LIVING			13.575	3	.004	
	LIVING(1)	-.358	.193	3.440	1	.064	.699
	LIVING(1)	-.358	.193	3.440	1	.064	.699
	LIVING(2)	.022	.119	.034	1	.853	1.022
	LIVING(2)	.022	.119	.034	1	.853	1.022
	LIVING(3)	-.647	.212	9.302	1	.002	.524
	LIVING(3)	-.647	.212	9.302	1	.002	.524
	AGE_IN	-.036	.007	24.692	1	.000	.964
	AGE_IN	-.036	.007	24.692	1	.000	.964

	HS_GED(1)	.320	.100	10.248	1	.001	1.377
	EMPLOYED			36.426	3	.000	
	EMPLOYED(1)	-.655	.112	34.475	1	.000	.519
	EMPLOYED(2)	-.478	.150	10.149	1	.001	.620
	EMPLOYED(3)	-.516	.588	.771	1	.380	.597
	CRACK(1)	-.571	.143	15.859	1	.000	.565
	INCJAIL(1)	-.668	.111	36.348	1	.000	.513
	R47	.336	.099	11.562	1	.001	1.399
	N57			12.434	2	.002	
	N57(1)	-.493	.159	9.568	1	.002	.611
	N57(2)	-.140	.149	.876	1	.349	.870
	N61			15.796	3	.001	
	N61(1)	-1.582	.603	6.884	1	.009	.206
	N61(2)	-.710	.282	6.316	1	.012	.492
	N61(3)	-.293	.108	7.397	1	.007	.746
	Constant	.778	.300	6.735	1	.009	2.178
Step 14	GENDER(1)	.761	.143	28.400	1	.000	2.139
	M_STATUS			13.182	2	.001	
	M_STATUS(1)	-.227	.192	1.402	1	.236	.797
	M_STATUS(2)	.407	.140	8.439	1	.004	1.502
	LIVING			13.010	3	.005	
	LIVING(1)	-.351	.194	3.296	1	.069	.704
	LIVING(2)	.021	.120	.032	1	.859	1.022
	LIVING(3)	-.633	.212	8.928	1	.003	.531
	AGE_IN	-.033	.007	20.454	1	.000	.967
	HS_GED(1)	.295	.101	8.607	1	.003	1.343
	EMPLOYED			34.579	3	.000	
	EMPLOYED			34.579	3	.000	
	EMPLOYED(1)	-.642	.112	32.899	1	.000	.526
	EMPLOYED(1)	-.642	.112	32.899	1	.000	.526
	EMPLOYED(2)	-.462	.150	9.425	1	.002	.630
	EMPLOYED(2)	-.462	.150	9.425	1	.002	.630
	EMPLOYED(3)	-.468	.587	.636	1	.425	.626
	EMPLOYED(3)	-.468	.587	.636	1	.425	.626
	CRACK(1)	-.587	.144	16.652	1	.000	.556
	CRACK(1)	-.587	.144	16.652	1	.000	.556
	JUVENILE(1)	-.383	.133	8.330	1	.004	.682
	JUVENILE(1)	-.383	.133	8.330	1	.004	.682
	INCJAIL(1)	-.647	.111	33.805	1	.000	.524
	INCJAIL(1)	-.647	.111	33.805	1	.000	.524
	R47	.280	.101	7.706	1	.006	1.323
	R47	.280	.101	7.706	1	.006	1.323
	N57			10.421	2	.005	
	N57			10.421	2	.005	
	N57(1)	-.448	.160	7.809	1	.005	.639
	N57(1)	-.448	.160	7.809	1	.005	.639
	N57(2)	-.118	.150	.624	1	.429	.888
	N57(2)	-.118	.150	.624	1	.429	.888
	N61			14.123	3	.003	
	N61			14.123	3	.003	
	N61(1)	-1.547	.602	6.598	1	.010	.213
	N61(1)	-1.547	.602	6.598	1	.010	.213

	N61(2)	-.674	.283	5.693	1	.017	.510
	N61(3)	-.268	.109	6.079	1	.014	.765
	Constant	1.015	.311	10.668	1	.001	2.760
Step 15	GENDER(1)	.756	.143	27.974	1	.000	2.130
	M_STATUS			13.322	2	.001	
	M_STATUS(1)	-.226	.192	1.386	1	.239	.798
	M_STATUS(2)	.410	.140	8.564	1	.003	1.507
	LIVING			13.117	3	.004	
	LIVING(1)	-.342	.194	3.122	1	.077	.710
	LIVING(2)	.018	.120	.022	1	.881	1.018
	LIVING(3)	-.647	.213	9.257	1	.002	.524
	AGE_IN	-.034	.007	21.424	1	.000	.967
	HS_GED(1)	.301	.101	8.919	1	.003	1.351
	EMPLOYED			33.837	3	.000	
	EMPLOYED(1)	-.634	.112	32.024	1	.000	.530
	EMPLOYED(2)	-.465	.151	9.526	1	.002	.628
	EMPLOYED(3)	-.482	.586	.674	1	.412	.618
	CRACK(1)	-.608	.145	17.657	1	.000	.544
	JUVENILE(1)	-.378	.133	8.013	1	.005	.686
	INCJAIL(1)	-.648	.111	33.830	1	.000	.523
	R42			6.113	2	.047	
	R42(1)	-.371	.157	5.621	1	.018	.690
	R42(2)	-.342	.152	5.068	1	.024	.710
	R47	.276	.101	7.476	1	.006	1.319
	N57			9.461	2	.009	
	N57(1)	-.431	.162	7.104	1	.008	.650
	N57(2)	-.114	.150	.577	1	.447	.892
	N57(2)	-.114	.150	.577	1	.447	.892
	N61			10.623	3	.014	
	N61			10.623	3	.014	
	N61(1)	-1.465	.605	5.862	1	.015	.231
	N61(1)	-1.465	.605	5.862	1	.015	.231
	N61(2)	-.605	.286	4.469	1	.035	.546
	N61(2)	-.605	.286	4.469	1	.035	.546
	N61(3)	-.211	.112	3.536	1	.060	.810
	N61(3)	-.211	.112	3.536	1	.060	.810
	Constant	1.314	.335	15.364	1	.000	3.723
	Constant	1.314	.335	15.364	1	.000	3.723

a Variable(s) entered on step 1: EMPLOYED.
b Variable(s) entered on step 2: N57.
c Variable(s) entered on step 3: R43.
d Variable(s) entered on step 4: LIVING.
e Variable(s) entered on step 5: INCJAIL.
f Variable(s) entered on step 6: GENDER.
g Variable(s) entered on step 7: CRACK.
h Variable(s) entered on step 8: HS_GED.
i Variable(s) entered on step 9: N61.
j Variable(s) entered on step 10: R47.
k Variable(s) entered on step 11: AGE_IN.
l Variable(s) entered on step 13: M_STATUS.
m Variable(s) entered on step 14: JUVENILE.
n Variable(s) entered on step 15: R42.

All Cohort and Index Variables with Revocation

Classification Table[a]

Observed			Predicted: Revoked Ever Over 3 years: No	Predicted: Revoked Ever Over 3 years: Yes	Percentage Correct
Step 1	Revoked Ever Over 3 years	No	2122	446	82.6
		Yes	362	418	53.6
	Overall Percentage				75.9

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	OF_LEVEL			1.564	2	.458	
	OF_LEVEL(1)	-.032	.140	.052	1	.819	.968
	OF_LEVEL(2)	.121	.128	.885	1	.347	1.128
	OFF_TYPE			2.779	3	.427	
	OFF_TYPE(1)	.250	.203	1.509	1	.219	1.283
	OFF_TYPE(2)	.157	.172	.831	1	.362	1.170
	OFF_TYPE(3)	.272	.176	2.401	1	.121	1.313
	GENDER(1)	.685	.135	25.614	1	.000	1.983
	M_STATUS			10.591	2	.005	
	M_STATUS(1)	-.148	.180	.670	1	.413	.863
	M_STATUS(2)	.370	.137	7.308	1	.007	1.447
	LIVING			13.718	3	.003	
	LIVING(1)	-.347	.182	3.624	1	.057	.707
	LIVING(2)	.022	.113	.039	1	.843	1.023
	LIVING(3)	-.602	.197	9.347	1	.002	.548
	AGE_IN	-.008	.009	.760	1	.383	.992
	IN_TYPE(1)	-.375	.240	2.437	1	.119	.687
	IN_TYPE(1)	-.375	.240	2.437	1	.119	.687
	GANG(1)	-.227	.211	1.165	1	.280	.797
	GANG(1)	-.227	.211	1.165	1	.280	.797
	JUVENILE(1)	-.373	.134	7.732	1	.005	.689
	JUVENILE(1)	-.373	.134	7.732	1	.005	.689
	R38	.047	.030	2.517	1	.113	1.048
	R38	.047	.030	2.517	1	.113	1.048
	R42			3.470	2	.176	
	R42			3.470	2	.176	
	R42(1)	-.233	.150	2.423	1	.120	.792
	R42(1)	-.233	.150	2.423	1	.120	.792
	R42(2)	-.266	.144	3.420	1	.064	.767
	R42(2)	-.266	.144	3.420	1	.064	.767
	R43	-.018	.010	3.466	1	.063	.982
	R43	-.018	.010	3.466	1	.063	.982
	R44	-.074	.056	1.743	1	.187	.929

R45	.283	.108	6.901	1	.009	1.327
R46	-.105	.093	1.271	1	.260	.901
R47	.301	.121	6.137	1	.013	1.351
R48	.081	.165	.240	1	.624	1.084
R49	.174	.152	1.321	1	.250	1.190
N52			.456	3	.928	
N52(1)	-.156	.285	.300	1	.584	.855
N52(2)	-.099	.170	.336	1	.562	.906
N52(3)	-.064	.135	.223	1	.637	.938
N53			5.419	3	.144	
N53(1)	.031	.214	.021	1	.884	1.032
N53(2)	.228	.174	1.713	1	.191	1.256
N53(3)	.294	.154	3.642	1	.056	1.342
N54			2.575	3	.462	
N54(1)	-.198	.227	.761	1	.383	.821
N54(2)	-.232	.160	2.095	1	.148	.793
N54(3)	-.062	.122	.253	1	.615	.940
N55			.244	3	.970	
N55(1)	-.083	.263	.099	1	.753	.920
N55(2)	-.025	.244	.011	1	.918	.975
N55(3)	-.050	.238	.045	1	.832	.951
N58			.823	2	.663	
N58(1)	.513	.566	.820	1	.365	1.670
N58(2)	.482	.575	.703	1	.402	1.620
N59			.288	2	.866	
N59(1)	.113	.298	.143	1	.706	1.119
N59(2)	.041	.328	.015	1	.902	1.041
N60			.241	2	.887	
N60			.241	2	.887	
N60(1)	.148	.325	.206	1	.650	1.159
N60(1)	.148	.325	.206	1	.650	1.159
N60(2)	.186	.406	.210	1	.647	1.204
N60(2)	.186	.406	.210	1	.647	1.204
N61			12.148	3	.007	
N61			12.148	3	.007	
N61(1)	-.968	.455	4.514	1	.034	.380
N61(1)	-.968	.455	4.514	1	.034	.380
N61(2)	-.735	.289	6.465	1	.011	.479
N61(2)	-.735	.289	6.465	1	.011	.479
N61(3)	-.290	.111	6.752	1	.009	.748
N61(3)	-.290	.111	6.752	1	.009	.748
Z_ED_AVG	-.133	.058	5.257	1	.022	.876
Z_ED_AVG	-.133	.058	5.257	1	.022	.876
ZEMP_AVG	-.310	.064	23.193	1	.000	.733
ZEMP_AVG	-.310	.064	23.193	1	.000	.733
ZCH_AVG	.033	.085	.152	1	.697	1.034
ZCH_AVG	.033	.085	.152	1	.697	1.034
ZSA_AVG	.411	.088	21.618	1	.000	1.508
ZSA_AVG	.411	.088	21.618	1	.000	1.508
Constant	-.921	.789	1.362	1	.243	.398
Constant	-.921	.789	1.362	1	.243	.398

a Variable(s) entered on step 1: OF_LEVEL, OFF_TYPE, GENDER, M_STATUS, LIVING, AGE_IN, IN_TYPE, GANG, JUVENILE, R38, R42, R43, R44, R45, R46, R47, R48, R49, N52, N53, N54, N55, N58, N59, N60, N61, Z_ED_AVG, ZEMP_AVG, ZCH_AVG, ZSA_AVG.

Cohort and Index Variables with Revocation Forward Conditional

Classification Table[a]

Observed			Predicted: Revoked Ever Over 3 years: No	Predicted: Revoked Ever Over 3 years: Yes	Predicted: Percentage Correct
Step 1	Revoked Ever Over 3 years	No	2109	459	82.1
		Yes	487	293	37.6
	Overall Percentage				71.7
Step 2	Revoked Ever Over 3 years	No	2184	384	85.0
		Yes	506	274	35.1
	Overall Percentage				73.4
Step 3	Revoked Ever Over 3 years	No	2139	429	83.3
		Yes	427	353	45.3
	Overall Percentage				74.4
Step 4	Revoked Ever Over 3 years	No	2113	455	82.3
		Yes	402	378	48.5
	Overall Percentage				74.4
Step 5	Revoked Ever Over 3 years	No	2088	480	81.3
		Yes	388	392	50.3
	Overall Percentage				74.1
Step 6	Revoked Ever Over 3 years	No	2079	489	81.0
		Yes	376	404	51.8
	Overall Percentage				74.2
Step 7	Revoked Ever Over 3 years	No	2105	463	82.0
		Yes	386	394	50.5
	Overall Percentage				74.6
Step 8	Revoked Ever Over 3 years	No	2095	473	81.6
		Yes	386	394	50.5
	Overall Percentage				74.3
Step 9	Revoked Ever Over 3 years	No	2086	482	81.2
		Yes	387	393	50.4
	Overall Percentage				74.0
Step 10	Revoked Ever Over 3 years	No	2095	473	81.6
		Yes	378	402	51.5
	Overall Percentage				74.6
Step 11	Revoked Ever Over 3 years	No	2106	462	82.0
		Yes	382	398	51.0
	Overall Percentage				74.8
Step 12	Revoked Ever Over 3 years	No	2094	474	81.5
		Yes	379	401	51.4
	Overall Percentage				74.5
Step 13	Revoked Ever Over 3 years	No	2098	470	81.7
		Yes	375	405	51.9
	Overall Percentage				74.8
Step 14	Revoked Ever Over 3 years	No	2110	458	82.2
		Yes	376	404	51.8
	Overall Percentage				75.1

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	ZEMP_AVG	-.617	.050	151.450	1	.000	.540
	Constant	-1.268	.044	846.511	1	.000	.281
Step 2	ZEMP_AVG	-.564	.051	123.632	1	.000	.569
	ZSA_AVG	.629	.068	84.519	1	.000	1.875
	Constant	-1.295	.044	847.524	1	.000	.274
Step 3	R43	-.053	.006	70.593	1	.000	.949
	ZEMP_AVG	-.503	.052	94.885	1	.000	.605
	ZSA_AVG	.568	.069	67.340	1	.000	1.765
	Constant	-.064	.147	.192	1	.661	.938
Step 4	LIVING			41.294	3	.000	
	LIVING(1)	-.638	.124	26.607	1	.000	.528
	LIVING(2)	.012	.106	.012	1	.912	1.012
	LIVING(3)	-.610	.190	10.255	1	.001	.543
	R43	-.043	.006	43.865	1	.000	.958
	ZEMP_AVG	-.432	.053	66.039	1	.000	.649
	ZSA_AVG	.585	.070	69.539	1	.000	1.795
	Constant	-.065	.167	.153	1	.696	.937
Step 5	GENDER(1)	.664	.125	28.021	1	.000	1.942
	LIVING			36.546	3	.000	
	LIVING(1)	-.598	.125	22.984	1	.000	.550
	LIVING(2)	-.002	.107	.000	1	.984	.998
	LIVING(3)	-.637	.191	11.104	1	.001	.529
	R43	-.036	.006	30.441	1	.000	.965
	ZEMP_AVG	-.491	.055	80.649	1	.000	.612
	ZSA_AVG	.576	.071	65.921	1	.000	1.778
	Constant	-.785	.213	13.552	1	.000	.456
	Constant	-.785	.213	13.552	1	.000	.456
Step 6	GENDER(1)	.659	.126	27.486	1	.000	1.934
Step 6	GENDER(1)	.659	.126	27.486	1	.000	1.934
	LIVING			37.330	3	.000	
	LIVING			37.330	3	.000	
	LIVING(1)	-.585	.125	21.823	1	.000	.557
	LIVING(1)	-.585	.125	21.823	1	.000	.557
	LIVING(2)	.024	.107	.051	1	.821	1.025
	LIVING(2)	.024	.107	.051	1	.821	1.025
	LIVING(3)	-.650	.191	11.543	1	.001	.522
	LIVING(3)	-.650	.191	11.543	1	.001	.522
	R43	-.035	.006	29.630	1	.000	.966
	R43	-.035	.006	29.630	1	.000	.966
	N61			23.160	3	.000	
	N61			23.160	3	.000	
	N61(1)	-1.271	.439	8.388	1	.004	.281
	N61(1)	-1.271	.439	8.388	1	.004	.281
	N61(2)	-.863	.276	9.759	1	.002	.422
	N61(2)	-.863	.276	9.759	1	.002	.422
	N61(3)	-.350	.098	12.872	1	.000	.705
	N61(3)	-.350	.098	12.872	1	.000	.705
	ZEMP_AVG	-.435	.056	60.874	1	.000	.647
	ZEMP_AVG	-.435	.056	60.874	1	.000	.647
	ZSA_AVG	.443	.076	33.518	1	.000	1.557
	ZSA_AVG	.443	.076	33.518	1	.000	1.557

	Constant	-.540	.220	6.009	1	.014	.583
Step 7	GENDER(1)	.649	.126	26.521	1	.000	1.913
	LIVING			38.540	3	.000	
	LIVING(1)	-.601	.125	22.918	1	.000	.548
	LIVING(2)	.023	.108	.046	1	.831	1.023
	LIVING(3)	-.652	.191	11.603	1	.001	.521
	JUVENILE(1)	-.451	.124	13.112	1	.000	.637
	R43	-.025	.007	13.978	1	.000	.975
	N61			21.036	3	.000	
	N61(1)	-1.248	.439	8.089	1	.004	.287
	N61(2)	-.837	.277	9.157	1	.002	.433
	N61(3)	-.324	.098	10.923	1	.001	.723
	ZEMP_AVG	-.419	.056	55.484	1	.000	.658
	ZSA_AVG	.428	.077	30.988	1	.000	1.535
	Constant	-.385	.221	3.028	1	.082	.680
Step 8	GENDER(1)	.719	.129	31.096	1	.000	2.052
	M_STATUS			9.025	2	.011	
	M_STATUS(1)	-.228	.175	1.703	1	.192	.796
	M_STATUS(2)	.268	.121	4.881	1	.027	1.307
	LIVING			19.269	3	.000	
	LIVING(1)	-.359	.177	4.116	1	.042	.698
	LIVING(2)	.030	.109	.074	1	.785	1.030
	LIVING(3)	-.712	.193	13.657	1	.000	.491
	JUVENILE(1)	-.448	.125	12.906	1	.000	.639
	R43	-.030	.007	17.434	1	.000	.971
	N61			20.617	3	.000	
	N61(1)	-1.212	.440	7.597	1	.006	.298
	N61(2)	-.830	.277	8.993	1	.003	.436
	N61(2)	-.830	.277	8.993	1	.003	.436
	N61(3)	-.327	.098	11.064	1	.001	.721
	N61(3)	-.327	.098	11.064	1	.001	.721
	ZEMP_AVG	-.426	.056	57.023	1	.000	.653
	ZEMP_AVG	-.426	.056	57.023	1	.000	.653
	ZSA_AVG	.423	.078	29.670	1	.000	1.527
	ZSA_AVG	.423	.078	29.670	1	.000	1.527
	Constant	-.404	.223	3.290	1	.070	.667
	Constant	-.404	.223	3.290	1	.070	.667
Step 9	GENDER(1)	.708	.129	30.119	1	.000	2.030
Step 9	GENDER(1)	.708	.129	30.119	1	.000	2.030
	M_STATUS			9.021	2	.011	
	M_STATUS			9.021	2	.011	
	M_STATUS(1)	-.235	.175	1.799	1	.180	.790
	M_STATUS(1)	-.235	.175	1.799	1	.180	.790
	M_STATUS(2)	.265	.121	4.753	1	.029	1.303
	M_STATUS(2)	.265	.121	4.753	1	.029	1.303
	LIVING			18.547	3	.000	
	LIVING			18.547	3	.000	
	LIVING(1)	-.339	.178	3.638	1	.056	.713
	LIVING(1)	-.339	.178	3.638	1	.056	.713
	LIVING(2)	.033	.109	.091	1	.762	1.033
	LIVING(2)	.033	.109	.091	1	.762	1.033
	LIVING(3)	-.704	.193	13.305	1	.000	.495
	LIVING(3)	-.704	.193	13.305	1	.000	.495

	JUVENILE(1)	-.412	.125	10.785	1	.001	.662
	R43	-.026	.007	12.956	1	.000	.974
	R47	.235	.094	6.293	1	.012	1.264
	N61			20.447	3	.000	
	N61(1)	-1.206	.439	7.533	1	.006	.299
	N61(2)	-.834	.277	9.085	1	.003	.434
	N61(3)	-.325	.099	10.855	1	.001	.723
	ZEMP_AVG	-.415	.057	53.651	1	.000	.660
	ZSA_AVG	.436	.078	31.373	1	.000	1.547
	Constant	-.629	.240	6.838	1	.009	.533
Step 10	GENDER(1)	.737	.130	32.247	1	.000	2.091
	M_STATUS			13.082	2	.001	
	M_STATUS(1)	-.168	.177	.900	1	.343	.845
	M_STATUS(2)	.395	.131	9.005	1	.003	1.484
	LIVING			14.925	3	.002	
	LIVING(1)	-.316	.178	3.161	1	.075	.729
	LIVING(2)	.009	.109	.007	1	.932	1.009
	LIVING(3)	-.652	.194	11.286	1	.001	.521
	AGE_IN	-.019	.008	6.588	1	.010	.981
	JUVENILE(1)	-.435	.126	11.924	1	.001	.647
	R43	-.013	.009	2.003	1	.157	.987
	R47	.243	.094	6.698	1	.010	1.275
	N61			21.686	3	.000	
	N61(1)	-1.221	.440	7.712	1	.005	.295
	N61(2)	-.853	.277	9.491	1	.002	.426
	N61(3)	-.344	.099	12.039	1	.001	.709
	ZEMP_AVG	-.404	.057	50.317	1	.000	.668
	ZEMP_AVG	-.404	.057	50.317	1	.000	.668
	ZSA_AVG	.477	.080	35.937	1	.000	1.611
	ZSA_AVG	.477	.080	35.937	1	.000	1.611
	Constant	-.445	.252	3.119	1	.077	.641
	Constant	-.445	.252	3.119	1	.077	.641
Step 11	GENDER(1)	.762	.129	35.064	1	.000	2.143
Step 11	GENDER(1)	.762	.129	35.064	1	.000	2.143
	M_STATUS			12.980	2	.002	
	M_STATUS			12.980	2	.002	
	M_STATUS(1)	-.162	.177	.842	1	.359	.850
	M_STATUS(1)	-.162	.177	.842	1	.359	.850
	M_STATUS(2)	.394	.131	9.002	1	.003	1.483
	M_STATUS(2)	.394	.131	9.002	1	.003	1.483
	LIVING			14.999	3	.002	
	LIVING			14.999	3	.002	
	LIVING(1)	-.322	.178	3.289	1	.070	.725
	LIVING(1)	-.322	.178	3.289	1	.070	.725
	LIVING(2)	.010	.109	.009	1	.926	1.010
	LIVING(2)	.010	.109	.009	1	.926	1.010
	LIVING(3)	-.650	.194	11.231	1	.001	.522
	LIVING(3)	-.650	.194	11.231	1	.001	.522
	AGE_IN	-.026	.006	17.796	1	.000	.975
	AGE_IN	-.026	.006	17.796	1	.000	.975

	JUVENILE(1)	-.494	.119	17.138	1	.000	.610
	R47	.268	.092	8.444	1	.004	1.307
	N61			22.127	3	.000	
	N61(1)	-1.234	.439	7.888	1	.005	.291
	N61(2)	-.864	.277	9.748	1	.002	.421
	N61(3)	-.346	.099	12.196	1	.000	.707
	ZEMP_AVG	-.402	.057	49.965	1	.000	.669
	ZSA_AVG	.498	.078	40.604	1	.000	1.645
	Constant	-.544	.241	5.100	1	.024	.580
Step 12	GENDER(1)	.745	.129	33.208	1	.000	2.106
	M_STATUS			12.922	2	.002	
	M_STATUS(1)	-.171	.178	.931	1	.335	.843
	M_STATUS(2)	.390	.132	8.774	1	.003	1.477
	LIVING			14.979	3	.002	
	LIVING(1)	-.350	.178	3.844	1	.050	.705
	LIVING(2)	.007	.110	.004	1	.950	1.007
	LIVING(3)	-.638	.194	10.822	1	.001	.528
	AGE_IN	-.025	.006	16.519	1	.000	.976
	JUVENILE(1)	-.463	.120	14.854	1	.000	.629
	R47	.280	.093	9.127	1	.003	1.323
	N61			18.789	3	.000	
	N61(1)	-1.162	.441	6.952	1	.008	.313
	N61(2)	-.802	.278	8.313	1	.004	.448
	N61(3)	-.320	.100	10.291	1	.001	.726
	Z_ED_AVG	-.134	.055	5.797	1	.016	.875
	ZEMP_AVG	-.374	.058	41.364	1	.000	.688
	ZSA_AVG	.507	.078	41.884	1	.000	1.661
	ZSA_AVG	.507	.078	41.884	1	.000	1.661
	Constant	-.603	.242	6.199	1	.013	.547
	Constant	-.603	.242	6.199	1	.013	.547
Step 13	GENDER(1)	.737	.130	32.323	1	.000	2.089
Step 13	GENDER(1)	.737	.130	32.323	1	.000	2.089
	M_STATUS			12.783	2	.002	
	M_STATUS			12.783	2	.002	
	M_STATUS(1)	-.182	.178	1.053	1	.305	.833
	M_STATUS(1)	-.182	.178	1.053	1	.305	.833
	M_STATUS(2)	.383	.132	8.437	1	.004	1.466
	M_STATUS(2)	.383	.132	8.437	1	.004	1.466
	LIVING			15.032	3	.002	
	LIVING			15.032	3	.002	
	LIVING(1)	-.342	.179	3.662	1	.056	.710
	LIVING(1)	-.342	.179	3.662	1	.056	.710
	LIVING(2)	.012	.110	.011	1	.915	1.012
	LIVING(2)	.012	.110	.011	1	.915	1.012
	LIVING(3)	-.642	.194	10.903	1	.001	.526
	LIVING(3)	-.642	.194	10.903	1	.001	.526
	AGE_IN	-.026	.006	17.999	1	.000	.974
	AGE_IN	-.026	.006	17.999	1	.000	.974
	JUVENILE(1)	-.434	.121	12.815	1	.000	.648
	JUVENILE(1)	-.434	.121	12.815	1	.000	.648

	R45	.183	.085	4.607	1	.032	1.201
	R47	.257	.093	7.566	1	.006	1.292
	N61			17.939	3	.000	
	N61(1)	-1.148	.440	6.788	1	.009	.317
	N61(2)	-.787	.278	7.996	1	.005	.455
	N61(3)	-.311	.100	9.640	1	.002	.733
	Z_ED_AVG	-.134	.056	5.830	1	.016	.874
	ZEMP_AVG	-.370	.058	40.576	1	.000	.690
	ZSA_AVG	.487	.079	37.870	1	.000	1.628
	Constant	-.604	.243	6.187	1	.013	.547
Step 14	OFF_TYPE			8.177	3	.042	
	OFF_TYPE(1)	.398	.171	5.415	1	.020	1.489
	OFF_TYPE(2)	.161	.157	1.055	1	.304	1.175
	OFF_TYPE(3)	.338	.145	5.445	1	.020	1.401
	GENDER(1)	.740	.130	32.167	1	.000	2.096
	M_STATUS			12.558	2	.002	
	M_STATUS(1)	-.171	.178	.919	1	.338	.843
	M_STATUS(2)	.386	.132	8.532	1	.003	1.471
	LIVING			13.977	3	.003	
	LIVING(1)	-.338	.179	3.557	1	.059	.713
	LIVING(2)	.016	.110	.021	1	.886	1.016
	LIVING(3)	-.612	.195	9.870	1	.002	.543
	AGE_IN	-.025	.006	16.755	1	.000	.975
	JUVENILE(1)	-.432	.121	12.639	1	.000	.649
	R45	.205	.087	5.597	1	.018	1.227
	R47	.302	.111	7.363	1	.007	1.352
	N61			19.004	3	.000	
	N61			19.004	3	.000	
	N61(1)	-1.175	.441	7.092	1	.008	.309
	N61(1)	-1.175	.441	7.092	1	.008	.309
	N61(2)	-.813	.279	8.488	1	.004	.444
	N61(2)	-.813	.279	8.488	1	.004	.444
	N61(3)	-.327	.101	10.484	1	.001	.721
	N61(3)	-.327	.101	10.484	1	.001	.721
	Z_ED_AVG	-.138	.056	6.073	1	.014	.871
	Z_ED_AVG	-.138	.056	6.073	1	.014	.871
	ZEMP_AVG	-.353	.059	36.084	1	.000	.702
	ZEMP_AVG	-.353	.059	36.084	1	.000	.702
	ZSA_AVG	.452	.083	29.561	1	.000	1.572
	ZSA_AVG	.452	.083	29.561	1	.000	1.572
	Constant	-.866	.272	10.109	1	.001	.421
	Constant	-.866	.272	10.109	1	.001	.421

a Variable(s) entered on step 1: ZEMP_AVG.
b Variable(s) entered on step 2: ZSA_AVG.
c Variable(s) entered on step 3: R43.
d Variable(s) entered on step 4: LIVING.
e Variable(s) entered on step 5: GENDER.
f Variable(s) entered on step 6: N61.
g Variable(s) entered on step 7: JUVENILE.
h Variable(s) entered on step 8: M_STATUS.
i Variable(s) entered on step 9: R47.
j Variable(s) entered on step 10: AGE_IN.

k Variable(s) entered on step 12: Z_ED_AVG.
l Variable(s) entered on step 13: R45.
m Variable(s) entered on step 14: OFF_TYPE.

Cohort and Index Variables with Revocation Reduced by Selecting Strongest Correlates

Classification Table[a]

			Predicted		
			Revoked Ever Over 3 years		Percentage Correct
	Observed		No	Yes	
Step 1	Revoked Ever Over 3 years	No	2098	472	81.6
		Yes	375	405	51.9
	Overall Percentage				74.7

a. The cut value is .320

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	.689	.130	28.258	1	.000	1.992
	M_STATUS			8.596	2	.014	
	M_STATUS(1)	-.254	.176	2.081	1	.149	.775
	M_STATUS(2)	.246	.122	4.036	1	.045	1.278
	LIVING			19.212	3	.000	
	LIVING(1)	-.365	.178	4.182	1	.041	.694
	LIVING(2)	.036	.109	.106	1	.745	1.036
	LIVING(3)	-.707	.193	13.367	1	.000	.493
	JUVENILE(1)	-.367	.126	8.428	1	.004	.693
	R43	-.024	.007	11.335	1	.001	.976
	R45	.124	.084	2.163	1	.141	1.132
	R47(1)	-.236	.094	6.270	1	.012	.790
	N61			16.655	3	.001	
	N61(1)	-1.124	.440	6.518	1	.011	.325
	N61(2)	-.760	.278	7.472	1	.006	.467
	N61(3)	-.291	.099	8.586	1	.003	.747
	Z_ED_AVG	-.140	.055	6.401	1	.011	.869
	Z_ED_AVG	-.140	.055	6.401	1	.011	.869
	ZEMP_AVG	-.384	.058	43.796	1	.000	.681
	ZEMP_AVG	-.384	.058	43.796	1	.000	.681
	ZSA_AVG	.434	.079	30.146	1	.000	1.543
	ZSA_AVG	.434	.079	30.146	1	.000	1.543
	Constant	-.490	.226	4.712	1	.030	.612
	Constant	-.490	.226	4.712	1	.030	.612

a Variable(s) entered on step 1: GENDER, M_STATUS, LIVING, JUVENILE, R43, R45, R47, N61, Z_ED_AVG, ZEMP_AVG, ZSA_AVG.

Wisconsin Risk Variables with Successful Probation

Classification Table[a]

	Observed		Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) — Not Selected	Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) — Selected	Predicted: Percentage Correct
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1323	520	71.8
		Selected	485	589	54.8
	Overall Percentage				65.5

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	-.137	.037	13.675	1	.000	.872
	R39	.009	.001	46.688	1	.000	1.009
	R40			10.650	2	.005	
	R40(1)	.266	.111	5.773	1	.016	1.305
	R40(2)	-.053	.127	.174	1	.677	.948
	R41			51.207	2	.000	
	R41(1)	.713	.106	45.589	1	.000	2.040
	R41(2)	.206	.131	2.482	1	.115	1.229
	R42			2.185	2	.335	
	R42(1)	.143	.142	1.013	1	.314	1.153
	R42(2)	.023	.144	.025	1	.873	1.023
	R43	.031	.005	36.321	1	.000	1.032
	R44	-.003	.048	.003	1	.955	.997
	R45	-.182	.114	2.522	1	.112	.834
	R46	.029	.075	.144	1	.704	1.029
	R47(1)	.361	.091	15.612	1	.000	1.434
	R48(1)	-.125	.128	.966	1	.326	.882
	R49(1)	.116	.110	1.103	1	.294	1.123
	R49(1)	.116	.110	1.103	1	.294	1.123
	Constant	-2.545	.294	74.888	1	.000	.078
	Constant	-2.545	.294	74.888	1	.000	.078

a Variable(s) entered on step 1: R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49.

Wisconsin Need Variables with Successful Probation

Classification Table[a]

	Observed		Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER)		Predicted: Percentage Correct
			Not Selected	Selected	
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1390	714	66.1
		Selected	518	776	60.0
	Overall Percentage				63.7

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N50			12.868	3	.005	
	N50(1)	.090	.185	.235	1	.628	1.094
	N50(2)	-.131	.188	.480	1	.488	.878
	N50(3)	-.251	.185	1.843	1	.175	.778
	N51			41.650	3	.000	
	N51(1)	.928	.204	20.763	1	.000	2.531
	N51(2)	.660	.189	12.189	1	.000	1.934
	N51(3)	.275	.186	2.192	1	.139	1.317
	N52			2.300	3	.512	
	N52(1)	.266	.199	1.778	1	.182	1.304
	N52(2)	.120	.142	.711	1	.399	1.127
	N52(3)	.041	.122	.115	1	.735	1.042
	N53			2.047	3	.563	
	N53(1)	-.102	.174	.344	1	.558	.903
	N53(2)	.027	.150	.032	1	.859	1.027
	N53(3)	-.087	.141	.376	1	.540	.917
	N54			.699	3	.874	
	N54(1)	.119	.168	.502	1	.478	1.127
	N54(1)	.119	.168	.502	1	.478	1.127
	N54(2)	.100	.135	.546	1	.460	1.105
	N54(2)	.100	.135	.546	1	.460	1.105
	N54(3)	.059	.120	.245	1	.621	1.061
	N54(3)	.059	.120	.245	1	.621	1.061
	N55			1.405	3	.704	
	N55			1.405	3	.704	
	N55(1)	.174	.250	.486	1	.486	1.191
	N55(1)	.174	.250	.486	1	.486	1.191
	N55(2)	.056	.238	.056	1	.812	1.058
	N55(2)	.056	.238	.056	1	.812	1.058
	N55(3)	.076	.236	.104	1	.747	1.079
	N55(3)	.076	.236	.104	1	.747	1.079
	N56			14.836	2	.001	
	N56			14.836	2	.001	
	N56(1)	.300	.113	7.031	1	.008	1.350

						0
N56(2)	-.016	.118	.019	1	.890	.984
N57			55.020	2	.000	
N57(1)	.932	.134	48.224	1	.000	2.540
N57(2)	.530	.145	13.414	1	.000	1.698
N58			.941	2	.625	
N58(1)	.223	.533	.175	1	.676	1.250
N58(2)	.050	.543	.008	1	.927	1.051
N59			11.360	2	.003	
N59(1)	-.368	.236	2.422	1	.120	.692
N59(2)	.061	.262	.054	1	.816	1.063
N60			.564	2	.754	
N60(1)	-.166	.223	.555	1	.456	.847
N60(2)	-.180	.320	.316	1	.574	.836
N61			6.748	3	.080	
N61(1)	.567	.244	5.390	1	.020	1.764
N61(2)	.267	.186	2.061	1	.151	1.306
N61(3)	.202	.103	3.822	1	.051	1.223
Constant	-1.893	.588	10.371	1	.001	.151

a Variable(s) entered on step 1: N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Wisconsin Risk and Need Variables with Successful Probation

Classification Table[a]

Observed			Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) — Not Selected	Selected	Percentage Correct
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1305	534	71.0
		Selected	444	630	58.7
	Overall Percentage				66.4

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	-.118	.038	9.628	1	.002	.889
	R39	.003	.002	3.489	1	.062	1.003
	R40			3.107	2	.212	
	R40(1)	-.285	.179	2.539	1	.111	.752
	R40(2)	-.242	.155	2.453	1	.117	.785
	R41			4.493	2	.106	
	R41(1)	.322	.159	4.106	1	.043	1.380
	R41(2)	.058	.144	.163	1	.687	1.060
	R42			.050	2	.975	
	R42(1)	-.012	.152	.006	1	.937	.988
	R42(2)	-.028	.150	.035	1	.851	.972
	R43	.028	.006	25.978	1	.000	1.029
	R44	-.005	.049	.009	1	.924	.995
	R45	-.188	.115	2.686	1	.101	.828
	R46	.048	.077	.388	1	.533	1.049
	R47(1)	.373	.094	15.624	1	.000	1.452
	R48(1)	-.181	.135	1.807	1	.179	.834
	R49(1)	.063	.122	.266	1	.606	1.065
	R49(1)	.063	.122	.266	1	.606	1.065
	N50			9.291	3	.026	
	N50			9.291	3	.026	
	N50(1)	.156	.214	.531	1	.466	1.169
	N50(1)	.156	.214	.531	1	.466	1.169
	N50(2)	.046	.218	.046	1	.831	1.048
	N50(2)	.046	.218	.046	1	.831	1.048
	N50(3)	-.191	.213	.804	1	.370	.826
	N50(3)	-.191	.213	.804	1	.370	.826
	N51			10.091	3	.018	
	N51			10.091	3	.018	
	N51(1)	.633	.252	6.317	1	.012	1.883
	N51(1)	.633	.252	6.317	1	.012	1.883
	N51(2)	.427	.229	3.468	1	.063	1.533
	N51(2)	.427	.229	3.468	1	.063	1.533
	N51(3)	.197	.206	.918	1	.338	1.218

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N52			1.252	3	.740	
N52(1)	.220	.224	.969	1	.325	1.246
N52(2)	.148	.159	.859	1	.354	1.159
N52(3)	.126	.136	.868	1	.352	1.135
N53			2.361	3	.501	
N53(1)	-.215	.196	1.205	1	.272	.806
N53(2)	-.093	.168	.305	1	.581	.912
N53(3)	-.189	.157	1.451	1	.228	.828
N54			3.665	3	.300	
N54(1)	-.304	.193	2.471	1	.116	.738
N54(2)	-.278	.157	3.159	1	.076	.757
N54(3)	-.168	.137	1.499	1	.221	.846
N55			1.696	3	.638	
N55(1)	.264	.291	.826	1	.363	1.302
N55(2)	.143	.278	.266	1	.606	1.154
N55(3)	.096	.277	.120	1	.729	1.101
N56			9.847	2	.007	
N56(1)	.541	.204	7.054	1	.008	1.717
N56(2)	.124	.159	.609	1	.435	1.132
N57			13.230	2	.001	
N57(1)	.711	.197	13.030	1	.000	2.037
N57(2)	.474	.170	7.770	1	.005	1.606
N58			.886	2	.642	
N58(1)	.699	1.114	.394	1	.530	2.012
N58(2)	.528	1.119	.223	1	.637	1.696
N59			3.740	2	.154	
N59(1)	-.043	.418	.010	1	.919	.958
N59(1)	-.043	.418	.010	1	.919	.958
N59(2)	.298	.445	.449	1	.503	1.347
N59(2)	.298	.445	.449	1	.503	1.347
N60			.783	2	.676	
N60			.783	2	.676	
N60(1)	.098	.262	.141	1	.707	1.103
N60(1)	.098	.262	.141	1	.707	1.103
N60(2)	.306	.359	.726	1	.394	1.358
N60(2)	.306	.359	.726	1	.394	1.358
N61			4.515	3	.211	
N61			4.515	3	.211	
N61(1)	.532	.279	3.636	1	.057	1.702
N61(1)	.532	.279	3.636	1	.057	1.702
N61(2)	.138	.204	.461	1	.497	1.148
N61(2)	.138	.204	.461	1	.497	1.148
N61(3)	.181	.116	2.428	1	.119	1.198
N61(3)	.181	.116	2.428	1	.119	1.198
Constant	-3.497	1.213	8.315	1	.004	.030
Constant	-3.497	1.213	8.315	1	.004	.030

a Variable(s) entered on step 1: R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Wisconsin Risk and Need Variables Forward Conditional and Successful Probation

Classification Table[a]

	Observed		Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) Not Selected	Selected	Percentage Correct
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	903	936	49.1
		Selected	298	776	72.3
	Overall Percentage				57.6
Step 2	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1276	563	69.4
		Selected	479	595	55.4
	Overall Percentage				64.2
Step 3	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1298	541	70.6
		Selected	479	595	55.4
	Overall Percentage				65.0
Step 4	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1314	525	71.5
		Selected	470	604	56.2
	Overall Percentage				65.8
Step 5	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1280	559	69.6
		Selected	448	626	58.3
	Overall Percentage				65.4
Step 6	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1301	538	70.7
		Selected	449	625	58.2
	Overall Percentage				66.1
Step 7	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1300	539	70.7
		Selected	453	621	57.8
	Overall Percentage				65.9

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N57			139.090	2	.000	
	N57(1)	1.392	.131	113.579	1	.000	4.023
	N57(2)	.730	.146	25.022	1	.000	2.076
	Constant	-1.580	.121	169.664	1	.000	.206
Step 2	N51			96.687	3	.000	
	N51(1)	1.278	.180	50.135	1	.000	3.588
	N51(2)	.811	.179	20.560	1	.000	2.250
	N51(2)	.811	.179	20.560	1	.000	2.250
	N51(3)	.393	.175	5.029	1	.025	1.481
	N51(3)	.393	.175	5.029	1	.025	1.481
	N57			101.444	2	.000	
	N57			101.444	2	.000	

	N57(1)	1.200	.133	80.885	1	.000	3.320
	N57(2)	.599	.148	16.276	1	.000	1.820
	Constant	-2.137	.192	124.500	1	.000	.118
Step 3	R43	.038	.005	56.830	1	.000	1.038
	N51			69.229	3	.000	
	N51(1)	1.103	.183	36.271	1	.000	3.014
	N51(2)	.736	.181	16.620	1	.000	2.088
	N51(3)	.345	.177	3.813	1	.051	1.412
	N57			85.461	2	.000	
	N57(1)	1.129	.134	70.517	1	.000	3.094
	N57(2)	.593	.149	15.743	1	.000	1.809
	Constant	-2.932	.221	175.894	1	.000	.053
Step 4	R43	.036	.005	50.498	1	.000	1.036
	N51			71.601	3	.000	
	N51(1)	1.145	.184	38.661	1	.000	3.143
	N51(2)	.776	.181	18.277	1	.000	2.172
	N51(3)	.377	.177	4.511	1	.034	1.457
	N56			21.656	2	.000	
	N56(1)	.413	.112	13.622	1	.000	1.512
	N56(2)	.037	.120	.095	1	.758	1.038
	N57			62.465	2	.000	
	N57(1)	1.008	.137	53.778	1	.000	2.740
	N57(2)	.557	.152	13.469	1	.000	1.746
	Constant	-3.043	.232	172.305	1	.000	.048
Step 5	R43	.030	.005	33.417	1	.000	1.030
	R47(1)	.358	.087	16.837	1	.000	1.431
	N51			67.133	3	.000	
	N51(1)	1.132	.185	37.503	1	.000	3.102
	N51(1)	1.132	.185	37.503	1	.000	3.102
	N51(2)	.770	.182	17.868	1	.000	2.160
	N51(2)	.770	.182	17.868	1	.000	2.160
	N51(3)	.392	.178	4.840	1	.028	1.480
	N51(3)	.392	.178	4.840	1	.028	1.480
	N56			25.159	2	.000	
	N56			25.159	2	.000	
	N56(1)	.465	.113	16.868	1	.000	1.591
	N56(1)	.465	.113	16.868	1	.000	1.591
	N56(2)	.069	.120	.326	1	.568	1.071
	N56(2)	.069	.120	.326	1	.568	1.071
	N57			65.033	2	.000	
	N57			65.033	2	.000	
	N57(1)	1.023	.138	55.043	1	.000	2.781
	N57(1)	1.023	.138	55.043	1	.000	2.781
	N57(2)	.545	.152	12.830	1	.000	1.725
	N57(2)	.545	.152	12.830	1	.000	1.725
	Constant	-3.157	.236	179.484	1	.000	.043
	Constant	-3.157	.236	179.484	1	.000	.043
Step 6	R38	-.119	.037	10.259	1	.001	.888
Step 6	R38	-.119	.037	10.259	1	.001	.888
	R43	.029	.005	30.784	1	.000	1.029
	R43	.029	.005	30.784	1	.000	1.029
	R47(1)	.341	.088	15.136	1	.000	1.406
	R47(1)	.341	.088	15.136	1	.000	1.406

	N51			59.874	3	.000	
	N51(1)	1.079	.186	33.743	1	.000	2.942
	N51(2)	.743	.183	16.536	1	.000	2.102
	N51(3)	.378	.179	4.476	1	.034	1.459
	N56			24.148	2	.000	
	N56(1)	.455	.113	16.070	1	.000	1.576
	N56(2)	.065	.121	.289	1	.591	1.067
	N57			62.078	2	.000	
	N57(1)	.999	.138	52.197	1	.000	2.714
	N57(2)	.527	.153	11.900	1	.001	1.693
	Constant	-2.968	.242	150.392	1	.000	.051
Step 7	R38	-.121	.037	10.621	1	.001	.886
	R43	.028	.005	28.136	1	.000	1.028
	R47(1)	.354	.088	16.202	1	.000	1.424
	N50			11.460	3	.009	
	N50(1)	.275	.206	1.779	1	.182	1.316
	N50(2)	.146	.209	.488	1	.485	1.157
	N50(3)	-.098	.207	.224	1	.636	.907
	N51			39.289	3	.000	
	N51(1)	.891	.207	18.500	1	.000	2.438
	N51(2)	.595	.203	8.621	1	.003	1.813
	N51(3)	.271	.195	1.923	1	.166	1.311
	N56			19.314	2	.000	
	N56(1)	.404	.115	12.425	1	.000	1.498
	N56(2)	.046	.121	.146	1	.702	1.047
	N57			63.167	2	.000	
	N57(1)	1.012	.139	53.287	1	.000	2.750
	N57(2)	.537	.153	12.282	1	.000	1.710
	N57(2)	.537	.153	12.282	1	.000	1.710
	Constant	-2.928	.268	119.674	1	.000	.054
	Constant	-2.928	.268	119.674	1	.000	.054

a Variable(s) entered on step 1: N57.
b Variable(s) entered on step 2: N51.
c Variable(s) entered on step 3: R43.
d Variable(s) entered on step 4: N56.
e Variable(s) entered on step 5: R47.
f Variable(s) entered on step 6: R38.
g Variable(s) entered on step 7: N50.

Wisconsin Best 9 Variables with Successful Probation

Classification Table[a]

Observed			Predicted		
			Clean or Term d_clean = 1 or termreas = 1 (FILTER)		Percentage Correct
			Not Selected	Selected	
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1301	542	70.6
		Selected	443	631	58.8
	Overall Percentage				66.2

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	R38	-.121	.037	10.487	1	.001	.886
	R39	.003	.002	3.572	1	.059	1.003
	R43	.027	.005	26.630	1	.000	1.027
	R45	-.149	.102	2.151	1	.143	.862
	R47(1)	.339	.088	14.788	1	.000	1.404
	N50			10.886	3	.012	
	N50(1)	.269	.206	1.711	1	.191	1.309
	N50(2)	.139	.209	.441	1	.506	1.149
	N50(3)	-.095	.207	.209	1	.647	.910
	N51			13.131	3	.004	
	N51(1)	.665	.239	7.744	1	.005	1.944
	N51(2)	.434	.219	3.916	1	.048	1.543
	N51(3)	.196	.199	.971	1	.324	1.216
	N56			17.870	2	.000	
	N56(1)	.385	.119	10.438	1	.001	1.469
	N56(2)	.025	.124	.041	1	.840	1.025
	N57			60.387	2	.000	
	N57(1)	.992	.139	50.748	1	.000	2.695
	N57(1)	.992	.139	50.748	1	.000	2.695
	N57(2)	.522	.153	11.590	1	.001	1.686
	N57(2)	.522	.153	11.590	1	.001	1.686
	Constant	-2.910	.272	114.763	1	.000	.054
	Constant	-2.910	.272	114.763	1	.000	.054

a Variable(s) entered on step 1: R38, R39, R43, R45, R47, N50, N51, N56, N57.

All Cohort Variables with Success Probation

Classification Table[a]

Observed			Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) Not Selected	Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) Selected	Predicted: Percentage Correct
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1300	496	72.4
		Selected	406	652	61.6
	Overall Percentage				68.4

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	-.656	.121	29.304	1	.000	.519
	M_STATUS			2.903	2	.234	
	M_STATUS(1)	.165	.161	1.055	1	.304	1.180
	M_STATUS(2)	-.111	.131	.724	1	.395	.895
	LIVING			1.695	3	.638	
	LIVING(1)	.124	.163	.579	1	.447	1.132
	LIVING(2)	.108	.124	.757	1	.384	1.114
	LIVING(3)	-.067	.177	.142	1	.706	.936
	AGE_IN	.038	.009	15.770	1	.000	1.038
	H_GRADE	.021	.023	.817	1	.366	1.021
	HS_GED(1)	-.242	.147	2.715	1	.099	.785
	EMPLOYED			5.345	3	.148	
	EMPLOYED(1)	.278	.153	3.332	1	.068	1.321
	EMPLOYED(2)	.279	.149	3.509	1	.061	1.322
	EMPLOYED(3)	.645	.480	1.805	1	.179	1.907
	INFLAD(1)	.087	.126	.485	1	.486	1.091
	ADTMTIN(1)	-.113	.175	.412	1	.521	.894
	INJECT(1)	.365	.275	1.759	1	.185	1.440
	INJECT(1)	.365	.275	1.759	1	.185	1.440
	ALC12MO			4.148	3	.246	
	ALC12MO			4.148	3	.246	
	ALC12MO(1)	.264	.163	2.615	1	.106	1.302
	ALC12MO(1)	.264	.163	2.615	1	.106	1.302
	ALC12MO(2)	.038	.168	.051	1	.821	1.039
	ALC12MO(2)	.038	.168	.051	1	.821	1.039
	ALC12MO(3)	.065	.141	.212	1	.645	1.067
	ALC12MO(3)	.065	.141	.212	1	.645	1.067
	CRACK(1)	.381	.163	5.471	1	.019	1.463
	CRACK(1)	.381	.163	5.471	1	.019	1.463
	MARJ(1)	.184	.134	1.893	1	.169	1.202
	MARJ(1)	.184	.134	1.893	1	.169	1.202
	ANY_DRUG(1)	-.476	.222	4.590	1	.032	.621
	ANY_DRUG(1)	-.476	.222	4.590	1	.032	.621
	LEGSTAT(1)	.263	.163	2.603	1	.107	1.301
	LEGSTAT(1)	.263	.163	2.603	1	.107	1.301

GANG(1)	.621	.291	4.559	1	.033	1.862
JUVENILE(1)	.179	.172	1.080	1	.299	1.196
FARRPROP	-.262	.148	3.147	1	.076	.769
FARRDRUG	-.109	.130	.701	1	.403	.897
FARRTLT	.152	.093	2.668	1	.102	1.164
FCONPROP	.173	.231	.560	1	.454	1.189
FCONTLT	.290	.269	1.169	1	.280	1.337
MARRTLT	-.067	.047	2.070	1	.150	.935
MCONTLT	.048	.072	.460	1	.498	1.050
INCJAIL(1)	.164	.140	1.363	1	.243	1.178
INCTYC(1)	-.391	.385	1.029	1	.310	.677
INCID(1)	.268	.320	.699	1	.403	1.307
FELPROBS	-.378	.222	2.901	1	.089	.685
FELPROBR	.573	.317	3.265	1	.071	1.773
R38	-.098	.041	5.779	1	.016	.907
R39	.003	.002	2.158	1	.142	1.003
R40			3.168	2	.205	
R40(1)	-.350	.204	2.945	1	.086	.704
R40(2)	-.244	.167	2.144	1	.143	.783
R41			1.655	2	.437	
R41(1)	.214	.168	1.613	1	.204	1.238
R41(2)	.065	.151	.184	1	.668	1.067
R42			.041	2	.980	
R42(1)	.016	.161	.010	1	.921	1.016
R42(2)	.029	.157	.034	1	.854	1.029
R43	-.010	.010	.995	1	.318	.990
R44	-.031	.066	.228	1	.633	.969
R45	-.168	.143	1.376	1	.241	.846
R45	-.168	.143	1.376	1	.241	.846
R46	-.090	.171	.276	1	.599	.914
R46	-.090	.171	.276	1	.599	.914
R47	-.305	.102	8.935	1	.003	.737
R47	-.305	.102	8.935	1	.003	.737
R48	.027	.145	.035	1	.852	1.027
R48	.027	.145	.035	1	.852	1.027
R49	.084	.128	.429	1	.512	1.088
R49	.084	.128	.429	1	.512	1.088
N50			1.491	3	.684	
N50			1.491	3	.684	
N50(1)	-.080	.272	.086	1	.770	.923
N50(1)	-.080	.272	.086	1	.770	.923
N50(2)	.020	.239	.007	1	.935	1.020
N50(2)	.020	.239	.007	1	.935	1.020
N50(3)	-.118	.225	.273	1	.602	.889
N50(3)	-.118	.225	.273	1	.602	.889
N51			3.954	3	.266	
N51			3.954	3	.266	
N51(1)	.489	.284	2.953	1	.086	1.630
N51(1)	.489	.284	2.953	1	.086	1.630
N51(2)	.285	.263	1.172	1	.279	1.329
N51(2)	.285	.263	1.172	1	.279	1.329
N51(3)	.234	.220	1.134	1	.287	1.264
N51(3)	.234	.220	1.134	1	.287	1.264

N52			1.818	3	.611	
N52(1)	.267	.232	1.328	1	.249	1.306
N52(2)	.201	.167	1.448	1	.229	1.222
N52(3)	.137	.142	.927	1	.336	1.147
N53			2.587	3	.460	
N53(1)	-.232	.207	1.251	1	.263	.793
N53(2)	-.114	.177	.412	1	.521	.892
N53(3)	-.217	.164	1.747	1	.186	.805
N54			9.582	3	.022	
N54(1)	-.542	.205	7.009	1	.008	.582
N54(2)	-.478	.168	8.097	1	.004	.620
N54(3)	-.297	.145	4.198	1	.040	.743
N55			6.005	3	.111	
N55(1)	.567	.304	3.493	1	.062	1.764
N55(2)	.390	.290	1.809	1	.179	1.477
N55(3)	.224	.288	.601	1	.438	1.251
N56			3.179	2	.204	
N56(1)	.348	.226	2.367	1	.124	1.416
N56(2)	.088	.171	.264	1	.607	1.092
N57			7.620	2	.022	
N57(1)	.630	.232	7.352	1	.007	1.877
N57(2)	.433	.188	5.317	1	.021	1.541
N58			.364	2	.833	
N58(1)	.227	1.156	.039	1	.844	1.255
N58(2)	.087	1.158	.006	1	.940	1.091
N59			3.620	2	.164	
N59(1)	.028	.442	.004	1	.949	1.029
N59(2)	.374	.468	.641	1	.423	1.454
N59(2)	.374	.468	.641	1	.423	1.454
N60			.962	2	.618	
N60			.962	2	.618	
N60(1)	.158	.273	.334	1	.563	1.171
N60(1)	.158	.273	.334	1	.563	1.171
N60(2)	.358	.366	.954	1	.329	1.430
N60(2)	.358	.366	.954	1	.329	1.430
N61			3.997	3	.262	
N61			3.997	3	.262	
N61(1)	.495	.291	2.891	1	.089	1.640
N61(1)	.495	.291	2.891	1	.089	1.640
N61(2)	.133	.212	.394	1	.530	1.142
N61(2)	.133	.212	.394	1	.530	1.142
N61(3)	.190	.121	2.478	1	.115	1.210
N61(3)	.190	.121	2.478	1	.115	1.210
Constant	-4.058	1.435	7.998	1	.005	.017
Constant	-4.058	1.435	7.998	1	.005	.017

a Variable(s) entered on step 1: GENDER, M_STATUS, LIVING, AGE_IN, H_GRADE, HS_GED, EMPLOYED, INFLAD, ADTMTIN, INJECT, ALC12MO, CRACK, MARJ, ANY_DRUG, LEGSTAT, GANG, JUVENILE, FARRPROP, FARRDRUG, FARRTLT, FCONPROP, FCONTLT, MARRTLT, MCONTLT, INCJAIL, INCTYC, INCID, FELPROBS, FELPROBR, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, N50, N51, N52, N53, N54, N55, N56, N57, N58, N59, N60, N61.

Cohort Variables with Successful Probation Forward Conditional

Classification Table[a]

	Observed		Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) Not Selected	Selected	Percentage Correct
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	878	918	48.9
		Selected	292	766	72.4
	Overall Percentage				57.6
Step 2	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1243	553	69.2
		Selected	472	586	55.4
	Overall Percentage				64.1
Step 3	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1256	540	69.9
		Selected	440	618	58.4
	Overall Percentage				65.7
Step 4	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1312	484	73.1
		Selected	479	579	54.7
	Overall Percentage				66.3
Step 5	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1287	509	71.7
		Selected	445	613	57.9
	Overall Percentage				66.6
Step 6	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1291	505	71.9
		Selected	457	601	56.8
	Overall Percentage				66.3
Step 7	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1276	520	71.0
		Selected	429	629	59.5
	Overall Percentage				66.7
Step 8	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1297	499	72.2
		Selected	448	610	57.7
	Overall Percentage				66.8
Step 9	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1278	518	71.2
		Selected	439	619	58.5
	Overall Percentage				66.5
Step 10	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1288	508	71.7
		Selected	449	609	57.6
	Overall Percentage				66.5
Step 11	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1288	508	71.7
		Selected	445	613	57.9
	Overall Percentage				66.6
Step 12	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1296	500	72.2
		Selected	440	618	58.4
	Overall Percentage				67.1
Step 13	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1300	496	72.4
		Selected	445	613	57.9
	Overall Percentage				67.0
Step 14	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1289	507	71.8
		Selected	444	614	58.0
	Overall Percentage				66.7

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	N57			135.460	2	.000	
	N57(1)	1.385	.132	109.564	1	.000	3.994
	N57(2)	.718	.148	23.592	1	.000	2.050
	Constant	-1.566	.123	162.280	1	.000	.209
Step 2	N51			95.328	3	.000	
	N51(1)	1.317	.185	50.726	1	.000	3.731
	N51(2)	.845	.183	21.254	1	.000	2.328
	N51(3)	.439	.180	5.979	1	.014	1.551
	N57			99.488	2	.000	
	N57(1)	1.196	.135	78.393	1	.000	3.308
	N57(2)	.588	.150	15.314	1	.000	1.801
	Constant	-2.165	.197	121.314	1	.000	.115
Step 3	GENDER(1)	-.811	.100	65.390	1	.000	.444
	N51			106.375	3	.000	
	N51(1)	1.450	.188	59.355	1	.000	4.264
	N51(2)	.969	.186	26.997	1	.000	2.634
	N51(3)	.519	.182	8.144	1	.004	1.680
	N57			99.716	2	.000	
	N57(1)	1.243	.137	82.541	1	.000	3.466
	N57(2)	.667	.152	19.226	1	.000	1.949
	Constant	-1.679	.204	67.822	1	.000	.186
Step 4	GENDER(1)	-.689	.103	45.136	1	.000	.502
	R43	.031	.005	36.865	1	.000	1.032
	N51			80.305	3	.000	
	N51(1)	1.289	.191	45.490	1	.000	3.629
	N51(2)	.892	.188	22.482	1	.000	2.439
	N51(2)	.892	.188	22.482	1	.000	2.439
	N51(3)	.470	.183	6.576	1	.010	1.600
	N51(3)	.470	.183	6.576	1	.010	1.600
	N57			86.815	2	.000	
	N57			86.815	2	.000	
	N57(1)	1.180	.138	73.346	1	.000	3.255
	N57(1)	1.180	.138	73.346	1	.000	3.255
	N57(2)	.652	.153	18.182	1	.000	1.920
	N57(2)	.652	.153	18.182	1	.000	1.920
	Constant	-2.419	.239	102.131	1	.000	.089
	Constant	-2.419	.239	102.131	1	.000	.089
Step 5	GENDER(1)	-.708	.103	47.210	1	.000	.493
Step 5	GENDER(1)	-.708	.103	47.210	1	.000	.493
	R38	-.141	.038	13.664	1	.000	.868
	R38	-.141	.038	13.664	1	.000	.868
	R43	.029	.005	32.207	1	.000	1.030
	R43	.029	.005	32.207	1	.000	1.030
	N51			71.123	3	.000	
	N51			71.123	3	.000	
	N51(1)	1.225	.192	40.680	1	.000	3.403
	N51(1)	1.225	.192	40.680	1	.000	3.403
	N51(2)	.855	.189	20.543	1	.000	2.351
	N51(2)	.855	.189	20.543	1	.000	2.351
	N51(3)	.451	.184	6.019	1	.014	1.569
	N51(3)	.451	.184	6.019	1	.014	1.569

	N57			82.358	2	.000	
	N57(1)	1.152	.138	69.390	1	.000	3.164
	N57(2)	.634	.154	17.078	1	.000	1.886
	Constant	-2.184	.247	78.234	1	.000	.113
Step 6	GENDER(1)	-.706	.103	46.935	1	.000	.494
	R38	-.134	.038	12.225	1	.000	.874
	R43	.025	.005	22.112	1	.000	1.025
	R47	-.293	.088	11.043	1	.001	.746
	N51			67.389	3	.000	
	N51(1)	1.213	.193	39.699	1	.000	3.365
	N51(2)	.850	.189	20.182	1	.000	2.340
	N51(3)	.465	.184	6.348	1	.012	1.591
	N57			85.741	2	.000	
	N57(1)	1.174	.139	71.548	1	.000	3.234
	N57(2)	.632	.154	16.883	1	.000	1.882
	Constant	-1.979	.255	60.380	1	.000	.138
Step 7	GENDER(1)	-.682	.103	43.449	1	.000	.506
	HS_GED(1)	-.294	.086	11.669	1	.001	.745
	R38	-.137	.039	12.719	1	.000	.872
	R43	.023	.005	19.116	1	.000	1.024
	R47	-.313	.088	12.520	1	.000	.731
	N51			53.100	3	.000	
	N51(1)	1.072	.197	29.676	1	.000	2.921
	N51(2)	.742	.192	14.948	1	.000	2.099
	N51(3)	.380	.186	4.165	1	.041	1.462
	N57			88.485	2	.000	
	N57(1)	1.197	.139	73.954	1	.000	3.311
	N57(2)	.645	.154	17.508	1	.000	1.907
	N57(2)	.645	.154	17.508	1	.000	1.907
	Constant	-1.723	.265	42.250	1	.000	.178
	Constant	-1.723	.265	42.250	1	.000	.178
Step 8	GENDER(1)	-.725	.105	48.067	1	.000	.485
Step 8	GENDER(1)	-.725	.105	48.067	1	.000	.485
	M_STATUS			14.245	2	.001	
	M_STATUS			14.245	2	.001	
	M_STATUS(1)	.309	.101	9.311	1	.002	1.362
	M_STATUS(1)	.309	.101	9.311	1	.002	1.362
	M_STATUS(2)	-.071	.116	.378	1	.539	.931
	M_STATUS(2)	-.071	.116	.378	1	.539	.931
	HS_GED(1)	-.324	.087	13.870	1	.000	.723
	HS_GED(1)	-.324	.087	13.870	1	.000	.723
	R38	-.129	.039	11.137	1	.001	.879
	R38	-.129	.039	11.137	1	.001	.879
	R43	.022	.006	14.949	1	.000	1.022
	R43	.022	.006	14.949	1	.000	1.022
	R47	-.300	.089	11.441	1	.001	.741
	R47	-.300	.089	11.441	1	.001	.741
	N51			44.737	3	.000	
	N51			44.737	3	.000	
	N51(1)	1.003	.198	25.627	1	.000	2.728
	N51(1)	1.003	.198	25.627	1	.000	2.728
	N51(2)	.696	.193	13.052	1	.000	2.006
	N51(2)	.696	.193	13.052	1	.000	2.006

	N51(3)	.362	.186	3.772	1	.052	1.436
	N57			89.152	2	.000	
	N57(1)	1.202	.140	74.253	1	.000	3.328
	N57(2)	.643	.155	17.307	1	.000	1.902
	Constant	-1.710	.265	41.518	1	.000	.181
Step 9	GENDER(1)	-.647	.107	36.437	1	.000	.523
	M_STATUS			14.635	2	.001	
	M_STATUS(1)	.337	.102	10.906	1	.001	1.400
	M_STATUS(2)	-.025	.117	.046	1	.830	.975
	HS_GED(1)	-.295	.087	11.379	1	.001	.744
	R38	-.126	.039	10.442	1	.001	.882
	R43	.020	.006	12.305	1	.000	1.020
	R47	-.328	.090	13.437	1	.000	.720
	N51			45.660	3	.000	
	N51(1)	1.033	.199	26.949	1	.000	2.809
	N51(2)	.723	.193	14.001	1	.000	2.062
	N51(3)	.390	.187	4.338	1	.037	1.477
	N56			11.123	2	.004	
	N56(1)	.319	.119	7.146	1	.008	1.376
	N56(2)	.033	.123	.070	1	.791	1.033
	N57			70.089	2	.000	
	N57(1)	1.106	.143	60.083	1	.000	3.022
	N57(2)	.607	.157	14.998	1	.000	1.835
	Constant	-1.869	.277	45.407	1	.000	.154
Step 10	GENDER(1)	-.665	.108	38.282	1	.000	.514
	M_STATUS			12.920	2	.002	
	M_STATUS(1)	.247	.107	5.384	1	.020	1.281
	M_STATUS(2)	-.147	.124	1.402	1	.236	.863
	M_STATUS(2)	-.147	.124	1.402	1	.236	.863
	AGE_IN	.021	.007	8.473	1	.004	1.021
	AGE_IN	.021	.007	8.473	1	.004	1.021
	HS_GED(1)	-.283	.088	10.384	1	.001	.754
	HS_GED(1)	-.283	.088	10.384	1	.001	.754
	R38	-.117	.039	9.077	1	.003	.890
	R38	-.117	.039	9.077	1	.003	.890
	R43	.005	.008	.511	1	.475	1.006
	R43	.005	.008	.511	1	.475	1.006
	R47	-.348	.090	14.913	1	.000	.706
	R47	-.348	.090	14.913	1	.000	.706
	N51			44.302	3	.000	
	N51			44.302	3	.000	
	N51(1)	1.017	.199	26.050	1	.000	2.766
	N51(1)	1.017	.199	26.050	1	.000	2.766
	N51(2)	.722	.194	13.899	1	.000	2.059
	N51(2)	.722	.194	13.899	1	.000	2.059
	N51(3)	.385	.187	4.219	1	.040	1.470
	N51(3)	.385	.187	4.219	1	.040	1.470
	N56			15.416	2	.000	
	N56			15.416	2	.000	
	N56(1)	.428	.125	11.623	1	.001	1.534
	N56(1)	.428	.125	11.623	1	.001	1.534
	N56(2)	.114	.127	.806	1	.369	1.121
	N56(2)	.114	.127	.806	1	.369	1.121

	N57			71.040	2	.000	
	N57(1)	1.115	.143	60.979	1	.000	3.049
	N57(2)	.613	.157	15.276	1	.000	1.846
	Constant	-2.136	.294	52.872	1	.000	.118
Step 11	GENDER(1)	-.676	.106	40.285	1	.000	.509
	M_STATUS			12.838	2	.002	
	M_STATUS(1)	.247	.107	5.372	1	.020	1.280
	M_STATUS(2)	-.146	.124	1.374	1	.241	.865
	AGE_IN	.024	.005	20.179	1	.000	1.025
	HS_GED(1)	-.285	.088	10.572	1	.001	.752
	R38	-.117	.039	9.202	1	.002	.889
	R47	-.362	.088	17.085	1	.000	.696
	N51			44.845	3	.000	
	N51(1)	1.023	.199	26.349	1	.000	2.781
	N51(2)	.724	.194	13.986	1	.000	2.063
	N51(3)	.387	.187	4.255	1	.039	1.472
	N56			17.888	2	.000	
	N56(1)	.453	.120	14.197	1	.000	1.574
	N56(2)	.133	.124	1.141	1	.286	1.142
	N57			72.408	2	.000	
	N57(1)	1.121	.142	61.909	1	.000	3.068
	N57(2)	.614	.157	15.354	1	.000	1.848
	Constant	-2.110	.292	52.375	1	.000	.121
Step 12	GENDER(1)	-.689	.107	41.422	1	.000	.502
	M_STATUS			13.086	2	.001	
	M_STATUS(1)	.253	.107	5.618	1	.018	1.288
	M_STATUS(2)	-.143	.124	1.319	1	.251	.867
	AGE_IN	.025	.005	20.526	1	.000	1.025
	AGE_IN	.025	.005	20.526	1	.000	1.025
	HS_GED(1)	-.288	.088	10.764	1	.001	.750
	HS_GED(1)	-.288	.088	10.764	1	.001	.750
	CRACK(1)	.401	.154	6.748	1	.009	1.493
	CRACK(1)	.401	.154	6.748	1	.009	1.493
	R38	-.112	.039	8.421	1	.004	.894
	R38	-.112	.039	8.421	1	.004	.894
	R47	-.364	.088	17.177	1	.000	.695
	R47	-.364	.088	17.177	1	.000	.695
	N51			43.418	3	.000	
	N51			43.418	3	.000	
	N51(1)	1.005	.200	25.346	1	.000	2.732
	N51(1)	1.005	.200	25.346	1	.000	2.732
	N51(2)	.696	.194	12.852	1	.000	2.006
	N51(2)	.696	.194	12.852	1	.000	2.006
	N51(3)	.373	.188	3.937	1	.047	1.452
	N51(3)	.373	.188	3.937	1	.047	1.452
	N56			17.042	2	.000	
	N56			17.042	2	.000	
	N56(1)	.446	.120	13.734	1	.000	1.563
	N56(1)	.446	.120	13.734	1	.000	1.563
	N56(2)	.137	.124	1.208	1	.272	1.147
	N56(2)	.137	.124	1.208	1	.272	1.147
	N57			34.727	2	.000	
	N57			34.727	2	.000	

	N57(1)	.905	.164	30.603	1	.000	2.471
	N57(2)	.493	.164	9.075	1	.003	1.637
	Constant	-2.270	.300	57.202	1	.000	.103
Step 13	GENDER(1)	-.668	.108	38.559	1	.000	.513
	M_STATUS			13.260	2	.001	
	M_STATUS(1)	.257	.107	5.785	1	.016	1.293
	M_STATUS(2)	-.142	.125	1.291	1	.256	.868
	AGE_IN	.027	.006	24.162	1	.000	1.028
	HS_GED(1)	-.292	.088	11.062	1	.001	.747
	CRACK(1)	.412	.155	7.091	1	.008	1.510
	MARRTLT	-.058	.024	5.670	1	.017	.944
	R38	-.109	.039	7.960	1	.005	.896
	R47	-.338	.088	14.595	1	.000	.713
	N51			41.262	3	.000	
	N51(1)	.985	.200	24.253	1	.000	2.677
	N51(2)	.688	.194	12.531	1	.000	1.990
	N51(3)	.369	.188	3.855	1	.050	1.447
	N56			9.897	2	.007	
	N56(1)	.324	.131	6.154	1	.013	1.382
	N56(2)	.044	.130	.116	1	.733	1.045
	N57			33.359	2	.000	
	N57(1)	.890	.164	29.529	1	.000	2.435
	N57(2)	.488	.164	8.893	1	.003	1.630
	Constant	-2.204	.301	53.632	1	.000	.110
Step 14	GENDER(1)	-.700	.109	41.337	1	.000	.497
	M_STATUS			12.093	2	.002	
	M_STATUS(1)	.232	.108	4.645	1	.031	1.261
	M_STATUS(2)	-.156	.125	1.566	1	.211	.855
	M_STATUS(2)	-.156	.125	1.566	1	.211	.855
	AGE_IN	.027	.006	23.927	1	.000	1.028
	AGE_IN	.027	.006	23.927	1	.000	1.028
	HS_GED(1)	-.282	.088	10.268	1	.001	.754
	HS_GED(1)	-.282	.088	10.268	1	.001	.754
	CRACK(1)	.416	.155	7.238	1	.007	1.516
	CRACK(1)	.416	.155	7.238	1	.007	1.516
	MARRTLT	-.056	.024	5.226	1	.022	.946
	MARRTLT	-.056	.024	5.226	1	.022	.946
	R38	-.110	.039	7.986	1	.005	.896
	R38	-.110	.039	7.986	1	.005	.896
	R39	.004	.002	4.496	1	.034	1.004
	R39	.004	.002	4.496	1	.034	1.004
	R47	-.329	.089	13.748	1	.000	.720
	R47	-.329	.089	13.748	1	.000	.720
	N51			12.673	3	.005	
	N51			12.673	3	.005	
	N51(1)	.724	.235	9.529	1	.002	2.062
	N51(1)	.724	.235	9.529	1	.002	2.062
	N51(2)	.500	.213	5.488	1	.019	1.649
	N51(2)	.500	.213	5.488	1	.019	1.649
	N51(3)	.282	.192	2.153	1	.142	1.326
	N51(3)	.282	.192	2.153	1	.142	1.326
	N56			10.645	2	.005	
	N56			10.645	2	.005	

N56(1)	.345	.131	6.940	1	.008	1.412
N56(2)	.060	.130	.210	1	.646	1.062
N57			31.410	2	.000	
N57(1)	.866	.164	27.807	1	.000	2.377
N57(2)	.474	.164	8.374	1	.004	1.607
Constant	-2.247	.302	55.401	1	.000	.106

a Variable(s) entered on step 1: N57.
b Variable(s) entered on step 2: N51.
c Variable(s) entered on step 3: GENDER.
d Variable(s) entered on step 4: R43.
e Variable(s) entered on step 5: R38.
f Variable(s) entered on step 6: R47.
g Variable(s) entered on step 7: HS_GED.
h Variable(s) entered on step 8: M_STATUS.
i Variable(s) entered on step 9: N56.
j Variable(s) entered on step 10: AGE_IN.
k Variable(s) entered on step 12: CRACK.
l Variable(s) entered on step 13: MARRTLT.
m Variable(s) entered on step 14: R39.

All Cohort and Index Variables with Successful Probation

Classification Table[a]

	Observed		Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER)		Predicted: Percentage Correct
			Not Selected	Selected	
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1451	613	70.3
		Selected	470	812	63.3
	Overall Percentage				67.6

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	-.660	.104	40.169	1	.000	.517
	M_STATUS			5.255	2	.072	
	M_STATUS(1)	.200	.147	1.840	1	.175	1.221
	M_STATUS(2)	-.139	.120	1.338	1	.247	.870
	LIVING			.870	3	.833	
	LIVING(1)	.032	.149	.046	1	.830	1.033
	LIVING(2)	.092	.112	.677	1	.411	1.097
	LIVING(3)	-.015	.158	.009	1	.922	.985
	AGE_IN	.033	.008	19.399	1	.000	1.034
	LEGSTAT(1)	.290	.150	3.744	1	.053	1.336
	GANG(1)	.700	.271	6.658	1	.010	2.014
	JUVENILE(1)	.285	.146	3.815	1	.051	1.329
	R38	-.115	.037	9.473	1	.002	.892
	R42			.412	2	.814	
	R42(1)	.088	.145	.372	1	.542	1.092
	R42(2)	.054	.142	.142	1	.706	1.055
	R43	-.005	.008	.454	1	.500	.995
	R43	-.005	.008	.454	1	.500	.995
	R44	.011	.051	.048	1	.827	1.011
	R44	.011	.051	.048	1	.827	1.011
	R45	-.101	.112	.812	1	.367	.904
	R45	-.101	.112	.812	1	.367	.904
	R46	.019	.106	.032	1	.858	1.019
	R46	.019	.106	.032	1	.858	1.019
	R47	-.212	.088	5.787	1	.016	.809
	R47	-.212	.088	5.787	1	.016	.809
	R48	-.005	.129	.002	1	.968	.995
	R48	-.005	.129	.002	1	.968	.995
	R49	.038	.113	.110	1	.740	1.038
	R49	.038	.113	.110	1	.740	1.038
	N52			3.744	3	.290	
	N52			3.744	3	.290	

N52(1)	.341	.209	2.645	1	.104	1.406
N52(2)	.240	.150	2.562	1	.109	1.271
N52(3)	.126	.129	.959	1	.327	1.134
N53			1.759	3	.624	
N53(1)	-.146	.185	.618	1	.432	.864
N53(2)	-.027	.160	.028	1	.868	.974
N53(3)	-.120	.149	.655	1	.418	.887
N54			4.632	3	.201	
N54(1)	-.330	.181	3.336	1	.068	.719
N54(2)	-.267	.147	3.314	1	.069	.766
N54(3)	-.136	.126	1.157	1	.282	.873
N55			2.979	3	.395	
N55(1)	.267	.263	1.032	1	.310	1.306
N55(2)	.104	.251	.173	1	.678	1.110
N55(3)	.058	.248	.055	1	.814	1.060
N58			.276	2	.871	
N58(1)	-.240	.562	.183	1	.669	.787
N58(2)	-.290	.575	.255	1	.614	.748
N59			3.851	2	.146	
N59(1)	-.149	.253	.346	1	.556	.862
N59(2)	.139	.276	.252	1	.616	1.149
N60			.034	2	.983	
N60(1)	.023	.244	.009	1	.925	1.023
N60(2)	-.019	.330	.003	1	.953	.981
N61			4.655	3	.199	
N61(1)	.478	.256	3.501	1	.061	1.613
N61(2)	.231	.194	1.424	1	.233	1.260
N61(3)	.177	.105	2.853	1	.091	1.194
N61(3)	.177	.105	2.853	1	.091	1.194
Z_ED_AVG	.159	.048	11.225	1	.001	1.173
Z_ED_AVG	.159	.048	11.225	1	.001	1.173
ZEMP_AVG	.313	.055	32.176	1	.000	1.368
ZEMP_AVG	.313	.055	32.176	1	.000	1.368
ZCH_AVG	-.109	.105	1.069	1	.301	.897
ZCH_AVG	-.109	.105	1.069	1	.301	.897
ZSA_AVG	-.706	.088	63.982	1	.000	.493
ZSA_AVG	-.706	.088	63.982	1	.000	.493
Constant	-1.865	.741	6.328	1	.012	.155
Constant	-1.865	.741	6.328	1	.012	.155

a Variable(s) entered on step 1: GENDER, M_STATUS, LIVING, AGE_IN, LEGSTAT, GANG, JUVENILE, R38, R42, R43, R44, R45, R46, R47, R48, R49, N52, N53, N54, N55, N58, N59, N60, N61, Z_ED_AVG, ZEMP_AVG, ZCH_AVG, ZSA_AVG.

Cohort and Index Variables with Successful Probation Forward Conditional

Classification Table [a]

Observed			Predicted: Clean or Term d_clean = 1 or termreas = 1 (FILTER) Not Selected	Selected	Percentage Correct
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1269	795	61.5
		Selected	554	728	56.8
	Overall Percentage				59.7
Step 2	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1410	654	68.3
		Selected	565	717	55.9
	Overall Percentage				63.6
Step 3	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1414	650	68.5
		Selected	529	753	58.7
	Overall Percentage				64.8
Step 4	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1434	630	69.5
		Selected	527	755	58.9
	Overall Percentage				65.4
Step 5	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1454	610	70.4
		Selected	528	754	58.8
	Overall Percentage				66.0
Step 6	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1457	607	70.6
		Selected	526	756	59.0
	Overall Percentage				66.1
Step 7	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1448	616	70.2
		Selected	497	785	61.2
	Overall Percentage				66.7
Step 8	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1457	607	70.6
		Selected	507	775	60.5
	Overall Percentage				66.7
Step 9	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1447	617	70.1
		Selected	497	785	61.2
	Overall Percentage				66.7
Step 10	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1446	618	70.1
		Selected	493	789	61.5
	Overall Percentage				66.8
Step 11	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1451	613	70.3
		Selected	489	793	61.9
	Overall Percentage				67.1

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	ZSA_AVG	-.883	.070	160.247	1	.000	.414
	Constant	-.517	.037	194.832	1	.000	.596
Step 2	AGE_IN	.040	.004	116.518	1	.000	1.040
	ZSA_AVG	-.956	.072	176.204	1	.000	.384
	Constant	-1.692	.116	213.487	1	.000	.184
Step 3	AGE_IN	.034	.004	81.824	1	.000	1.034
	ZEMP_AVG	.408	.046	79.914	1	.000	1.503
	ZSA_AVG	-.912	.074	153.203	1	.000	.402
	Constant	-1.537	.117	171.273	1	.000	.215
Step 4	GENDER(1)	-.660	.092	50.890	1	.000	.517
	AGE_IN	.031	.004	68.043	1	.000	1.031
	ZEMP_AVG	.462	.047	97.685	1	.000	1.587
	ZSA_AVG	-.835	.074	128.072	1	.000	.434
	Constant	-.943	.143	43.468	1	.000	.389
Step 5	GENDER(1)	-.683	.093	53.853	1	.000	.505
	AGE_IN	.030	.004	60.984	1	.000	1.030
	R38	-.148	.036	17.096	1	.000	.863
	ZEMP_AVG	.443	.047	88.988	1	.000	1.557
	ZSA_AVG	-.792	.075	112.874	1	.000	.453
	Constant	-.761	.150	25.854	1	.000	.467
Step 6	GENDER(1)	-.658	.093	49.634	1	.000	.518
	AGE_IN	.030	.004	62.287	1	.000	1.030
	R38	-.151	.036	17.738	1	.000	.860
	Z_ED_AVG	.156	.045	12.066	1	.001	1.168
	ZEMP_AVG	.404	.048	70.180	1	.000	1.498
	ZSA_AVG	-.786	.075	111.324	1	.000	.456
	ZSA_AVG	-.786	.075	111.324	1	.000	.456
	Constant	-.789	.150	27.625	1	.000	.454
	Constant	-.789	.150	27.625	1	.000	.454
Step 7	GENDER(1)	-.635	.094	46.030	1	.000	.530
Step 7	GENDER(1)	-.635	.094	46.030	1	.000	.530
	AGE_IN	.028	.004	51.430	1	.000	1.028
	AGE_IN	.028	.004	51.430	1	.000	1.028
	R38	-.143	.036	15.792	1	.000	.867
	R38	-.143	.036	15.792	1	.000	.867
	R47	-.291	.080	13.078	1	.000	.748
	R47	-.291	.080	13.078	1	.000	.748
	Z_ED_AVG	.166	.045	13.630	1	.000	1.180
	Z_ED_AVG	.166	.045	13.630	1	.000	1.180
	ZEMP_AVG	.384	.049	62.672	1	.000	1.469
	ZEMP_AVG	.384	.049	62.672	1	.000	1.469
	ZSA_AVG	-.806	.075	114.527	1	.000	.447
	ZSA_AVG	-.806	.075	114.527	1	.000	.447
	Constant	-.625	.157	15.860	1	.000	.535
	Constant	-.625	.157	15.860	1	.000	.535
Step 8	GENDER(1)	-.662	.095	48.966	1	.000	.516
Step 8	GENDER(1)	-.662	.095	48.966	1	.000	.516
	M_STATUS			10.205	2	.006	
	M_STATUS			10.205	2	.006	
	M_STATUS(1)	.160	.100	2.578	1	.108	1.173

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	M_STATUS(2)	-.180	.116	2.418	1	.120	.835
	AGE_IN	.029	.004	41.171	1	.000	1.029
	R38	-.132	.036	13.469	1	.000	.876
	R47	-.284	.081	12.383	1	.000	.753
	Z_ED_AVG	.180	.045	15.687	1	.000	1.197
	ZEMP_AVG	.364	.049	54.195	1	.000	1.439
	ZSA_AVG	-.802	.075	113.552	1	.000	.448
	Constant	-.663	.158	17.599	1	.000	.515
Step 9	GENDER(1)	-.647	.095	46.712	1	.000	.524
	M_STATUS			10.337	2	.006	
	M_STATUS(1)	.156	.100	2.440	1	.118	1.168
	M_STATUS(2)	-.187	.116	2.617	1	.106	.829
	AGE_IN	.028	.005	37.536	1	.000	1.028
	GANG(1)	.663	.264	6.328	1	.012	1.941
	R38	-.135	.036	13.961	1	.000	.874
	R47	-.279	.081	11.901	1	.001	.757
	Z_ED_AVG	.171	.045	14.160	1	.000	1.187
	ZEMP_AVG	.356	.050	51.458	1	.000	1.427
	ZSA_AVG	-.803	.075	113.742	1	.000	.448
	Constant	-1.280	.294	18.936	1	.000	.278
Step 10	GENDER(1)	-.641	.095	45.749	1	.000	.527
	M_STATUS			10.117	2	.006	
	M_STATUS(1)	.163	.100	2.671	1	.102	1.177
	M_STATUS(2)	-.175	.116	2.280	1	.131	.839
	AGE_IN	.028	.005	38.018	1	.000	1.028
	LEGSTAT(1)	.346	.138	6.291	1	.012	1.414
	LEGSTAT(1)	.346	.138	6.291	1	.012	1.414
	GANG(1)	.665	.264	6.365	1	.012	1.945
	GANG(1)	.665	.264	6.365	1	.012	1.945
	R38	-.134	.036	13.680	1	.000	.875
	R38	-.134	.036	13.680	1	.000	.875
	R47	-.269	.081	11.050	1	.001	.764
	R47	-.269	.081	11.050	1	.001	.764
	Z_ED_AVG	.173	.046	14.477	1	.000	1.189
	Z_ED_AVG	.173	.046	14.477	1	.000	1.189
	ZEMP_AVG	.355	.050	51.113	1	.000	1.426
	ZEMP_AVG	.355	.050	51.113	1	.000	1.426
	ZSA_AVG	-.776	.076	104.392	1	.000	.460
	ZSA_AVG	-.776	.076	104.392	1	.000	.460
	Constant	-1.615	.323	24.942	1	.000	.199
	Constant	-1.615	.323	24.942	1	.000	.199
Step 11	GENDER(1)	-.634	.095	44.500	1	.000	.530
Step 11	GENDER(1)	-.634	.095	44.500	1	.000	.530
	M_STATUS			9.549	2	.008	
	M_STATUS			9.549	2	.008	
	M_STATUS(1)	.155	.100	2.388	1	.122	1.167
	M_STATUS(1)	.155	.100	2.388	1	.122	1.167
	M_STATUS(2)	-.175	.116	2.271	1	.132	.839
	M_STATUS(2)	-.175	.116	2.271	1	.132	.839

AGE_IN	.029	.005	39.898	1	.000	1.029
LEGSTAT(1)	.329	.138	5.679	1	.017	1.390
GANG(1)	.654	.264	6.137	1	.013	1.924
R38	-.127	.036	12.319	1	.000	.881
R47	-.265	.081	10.723	1	.001	.767
N61			8.337	3	.040	
N61(1)	.559	.236	5.620	1	.018	1.749
N61(2)	.286	.181	2.499	1	.114	1.330
N61(3)	.208	.093	5.006	1	.025	1.232
Z_ED_AVG	.157	.046	11.565	1	.001	1.169
ZEMP_AVG	.330	.050	42.848	1	.000	1.391
ZSA_AVG	-.702	.080	76.320	1	.000	.496
Constant	-1.780	.332	28.799	1	.000	.169

a Variable(s) entered on step 1: ZSA_AVG.
b Variable(s) entered on step 2: AGE_IN.
c Variable(s) entered on step 3: ZEMP_AVG.
d Variable(s) entered on step 4: GENDER.
e Variable(s) entered on step 5: R38.
f Variable(s) entered on step 6: Z_ED_AVG.
g Variable(s) entered on step 7: R47.
h Variable(s) entered on step 8: M_STATUS.
i Variable(s) entered on step 9: GANG.
j Variable(s) entered on step 10: LEGSTAT.
k Variable(s) entered on step 11: N61.

Cohort and Index Variables with Successful Probation Reduced by Selecting Strongest Correlates

Classification Table[a]

			Predicted		
			Clean or Term d_clean = 1 or termreas = 1 (FILTER)		Percentage Correct
	Observed		Not Selected	Selected	
Step 1	Clean or Term d_clean = 1 or termreas = 1 (FILTER)	Not Selected	1483	623	70.4
		Selected	502	793	61.2
	Overall Percentage				66.9

a. The cut value is .410

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	GENDER(1)	-.617	.093	43.963	1	.000	.540
	AGE_IN	.026	.004	46.358	1	.000	1.027
	GANG(1)	.591	.258	5.226	1	.022	1.805
	R38	-.147	.036	17.130	1	.000	.863
	R47(1)	.300	.080	14.089	1	.000	1.350
	Z_ED_AVG	.160	.045	12.801	1	.000	1.173
	ZEMP_AVG	.375	.048	60.135	1	.000	1.454
	ZSA_AVG	-.803	.075	115.911	1	.000	.448
	Constant	-1.471	.286	26.530	1	.000	.230

a Variable(s) entered on step 1: GENDER, AGE_IN, GANG, R38, R47, Z_ED_AVG, ZEMP_AVG, ZSA_AVG.

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